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United States Department of the Interior
Bureau of Land Management

Lewistown Field Office July 2002

FINAL
Environmental Assessment
Upper Missouri Watershed
MT060-02-04

2002-020650/NF C

The Bureau of Land Management is responsible for the stewardship of our public lands. It is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people for all times. Management is based on the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation; rangelands; timber; minerals; watershed; fish and wildlife; wilderness; air; and scenic, scientific, and cultural values.

BLM/MT/PL-02/008+1020

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Lewistown Field Office
Airport Road, P.O. Box 1160
Lewistown, Montana 59457-1160
http://www.mt.blm.gov/ldo/

IN REPLY TO:

7220

July 2002

Dear Interested Party:

Thank you for your continued interest in the Environmental Assessment (EA) for management of public lands in the Upper Missouri Watershed. We have chosen Alternative 2, the proposed action, as the approved alternative to manage the rangeland resources (including upland and riparian areas), noxious weeds and sage grouse. You will find on the following page a Finding of No Significant Impact/Decision Record (FONSI/DR) for the EA.

We received and reviewed eighty (80) comment letters on the Draft EA. Pertinent comments and our responses are found in Chapter 6 of this document. Changes made to the Draft EA as a result of the comments received appear as italicized text in Chapters 1 through 4.

If you believe that you have been affected adversely by the decision made in the FONSI/DR, or that the decision is incorrect, you may have the right to protest and appeal the decision. The protest and appeal procedures are provided below, and appeal procedures are also shown on Form 1842-1, Information on Taking Appeals to the Board of Land Appeals, which follows the FONSI/DR.

Authority: This action is in accordance with 43 CFR 4130.2, 4110.2-2(a), 4110.4-2, 4130.3, 4180.1 and 4180.2(c).

Right of Protest and/or Appeal: Any applicant, permittee, lessee or other affected interest may protest a proposed decision under Section 43 CFR 4160.1, in person or in writing to David Mari, Field Manager, Lewistown Field Office, P.O. Box 1160, Lewistown, MT 59457 within 15 days of receipt of such decision. No special form is needed for a protest. The protest, if filed, should clearly and concisely state the reason(s) as to why the proposed decision is in error. The protest process allows the agency to make corrections or adjustments based on the information contained in the protest.

In the absence of a protest, the proposed decision will become the final decision of the authorized officer without further notice unless otherwise provided in the proposed decision.

Any applicant, permittee, lessee or other person whose interest is adversely affected by the final decision may file an appeal in accordance with 43 CFR 4.470 and 43 CFR 4160.1-4. The appeal may be accompanied by a petition for stay of the decision in accordance with 43 CFR 4.21, pending final determination on appeal. The appeal and petition for stay must be filed in the office of the authorized officer, as noted above, within 30 days following receipt of the final decision, or within 30 days after the date the proposed decision becomes final. An appeal should follow a protest. If an appeal is not preceded by a protest, the appeal may be rejected.

The appeal shall state the reasons, clearly and concisely, why the appellant thinks the final decision is in error and otherwise comply with the provisions of 43 CFR 4.470 which is available from the BLM office for your use in a BLM office.

In accordance with 43 CFR 4.21(b)(1), a petition for stay, if filed, must show sufficient justification based on the following standards: (1) the relative harm to the parties if the stay is granted or denied; (2) the likelihood of the appellant's success on the merits; (3) the likelihood of immediate and irreparable harm if the stay is not granted; and (4) whether the public interest favors granting the stay.

We wish to thank all those who provided suggestions and comments on the Draft EA. Additional copies of the Final EA are available upon request from the Lewistown Field Office.

Sincerely,

David L. Mari

David L. Mari
Field Manager

FINDING OF NO SIGNIFICANT IMPACT AND DECISION RECORD

UPPER MISSOURI WATERSHED

BUREAU OF LAND MANAGEMENT
LEWISTOWN FIELD OFFICE
LEWISTOWN, MT

Decision: It is my decision to approve the proposed action of the Upper Missouri Watershed Management Plan Environmental Assessment.

Finding of No Significant Impact: Based on an analysis of potential environmental impacts contained in the Upper Missouri Watershed Environmental Assessment (MT-060-02-04), I have determined that impacts are not expected to be significant and an environmental impact statement is not required.

Rational for Decision: The decision to approve the proposed action does not result in any undue or unnecessary environmental degradation and is in conformance with the Judith-Valley-Phillips Resource Management Plan (September 1994), the West HiLine Resource Management Plan (1988), and the State Director's Interim Guidance for the Upper Missouri River Breaks National Monument (June 2001).

David L. Mari

David L. Mari
Lewistown Field Manager

6/26/02
Date

Concurrence:

Gary Slagel

Gary Slagel
Manager, Upper Missouri River Breaks
National Monument

Chuck Otto

Chuck Otto
Assistant Field Manager,
Lewistown Field Office

Form 1842-1
(April 2002)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

INFORMATION ON TAKING APPEALS TO THE BOARD OF LAND APPEALS

DO NOT APPEAL UNLESS

1. This decision is adverse to you,

AND

2. You believe it is incorrect

*IF YOU APPEAL, THE FOLLOWING PROCEDURES **MUST** BE FOLLOWED*

1. NOTICE OF APPEAL	Within 30 days, file a *Notice of Appeal* in the office which issued this decision (see 43 CFR Secs. 4.411 and 4.413). You may state your reasons for appealing, if you desire.
2. WHERE TO FILE .... NOTICE OF APPEAL	David L. Mari, Field Manager Bureau of Land Management Lewistown Field Office P.O. Box 1160 Lewistown, MT 59457-1160
SOLICITOR ALSO COPY TO	Field Solicitor U.S. Department of the Interior P.O. Box 31394 Billings, MT 59107-1394
3. STATEMENT OF REASONS	Within 30 days after filing the *Notice of Appeal*, file a complete statement of the reasons why you are appealing. This must be filed with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 801 N. Quincy St., Suite 300, Arlington, Virginia 22203 (see 43 CFR Sec. 4.412 and 4.413). If you fully stated your reasons for appealing when filing the *Notice of Appeal*, no additional statement is necessary.
SOLICITOR ALSO COPY TO	Field Solicitor U.S. Department of the Interior P.O. Box 31394 Billings, MT 59107-1394
4. ADVERSE PARTIES	Within 15 days after each document is filed, each adverse party named in the decision and the Regional Solicitor or Field Solicitor having jurisdiction over the State in which the appeal arose **must** be served with a copy of: (a) the *Notice of Appeal*, (b) the Statement of Reasons, and (c) any other documents filed (see 43 CFR Sec. 4.413). Service will be made upon the Associate Solicitor, Division of Energy and Resources, Washington D.C. 20240, instead of the Field or Regional Solicitor when appeals are taken from the decisions of the Director (WO-100)
5. PROOF OF SERVICE	Within 15 days after any document is served on an adverse party, file proof of that service with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 801 N. Quincy St., Suite 300, Arlington, Virginia 22203. This may consist of a certified or registered mail "Return Receipt Card" signed by the adverse party (see 43 CFR Sec. 4.401(c)(2)).

Unless these procedures are followed, your appeal will be subject to dismissal (see 43 CFR Sec. 4.402). Be certain that all communications are identified by serial number of the case being appealed.

NOTE: *A document is not filed until it is actually received in the proper office (see 43 CFR Sec. 4.401(a))*

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SUBPART 1821.2--OFFICE HOURS; TIME AND PLACE FOR FILING

Sec. 1821.2-1 *Office hours of State Offices.* (a) State Offices and the Washington Office of the Bureau of Land Management are open to the public for the filing of documents and inspection of records during the hours specified in this paragraph on Monday through Friday of each week, with the exception of those days where the office may be closed because of a national holiday or Presidential or other administrative order. The hours during which the State Offices and the Washington Office are open to the public for the filing of documents and inspection of records are from 10:00 a.m. to 4:00 p.m., standard time or daylight savings time, whichever is in effect at the city in which each office is located.

Sec. 1821.2-2(d) Any document required or permitted to be filed under the regulations of this chapter, which is received in the State Office or the Washington Office, either in the mail or by personal delivery when the office is not open to the public shall be deemed to be filed as of the day and hour the office next opens to the public.

(e) Any document required by law, regulation, or decision to be filed within a stated period, the last day of which falls on a day the State Office or the Washington Office is officially closed, shall be deemed to be timely filed if it is received in the appropriate office on the next day the office is open to the public.

* * * * * * *

See 43 CFR 4.21 for appeal general provisions.

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HOW TO READ THIS EA (ENVIRONMENTAL ASSESSMENT)

To read this EA more effectively, carefully study this page. Following federal regulations, we have designed and written this EA (1) to provide the Bureau of Land Management's Lewistown Field Manager with sufficient information to make an informed, reasoned decision concerning the proposed Upper Missouri Watershed Environmental Assessment and (2) to inform members of the affected and interested public of this EA so that members of the public may express their opinions to the Field Manager.

This EA follows the organization and content established by the CEQ Regulations (40 CFR 1500-1508). The EA consists of the following chapters:

1. Introduction, Purpose, and Need for Action
2. Alternatives, Including the Proposed Action
3. Affected Environment
4. Environmental Consequences
5. Consultation and Coordination
6. Comments and Responses
7. Appendix Items, References, Maps, and Monitoring Forms.

Italicized text in Chapters 1 through 4 indicate changes made to the Draft EA as a result of public comments.

Chapters 1 and 2 together serve as an Executive Summary. These two chapters discuss the potential environmental, technical, and economic consequences of taking and of not taking action.

- **Chapter 1** introduces the Upper Missouri Watershed. It provides a very brief description of the watershed and then explains three key things about the EA: (1) background and need for the proposed action, (2) direction and conformance with existing land use plans, and (3) issues and objectives specific to the Upper Missouri Watershed.

- **Chapter 2** is the ***heart*** of this EA. It provides detailed descriptions of Alternative 1: Continuation of Current Management, Alternative 2: Proposed Action, and Alternative 3: No Livestock Grazing. Most important, it includes an analysis of each allotment in the watershed, whether or not these allotments are meeting standards, and proposed actions for those allotments not meeting standards.

Chapters 3 and 4 contain detailed, scientific information, presented to alert technical specialists to potential problems, opportunities, and solutions.

- **Chapter 3** briefly describes the past and current conditions of the relevant resources (issues) in the watershed that would be meaningfully affected, establishing a part of the baseline used for the comparison of the predicted effects of the action alternative.

- **Chapter 4** presents the detailed, analytic predictions of the consequences of implementing Alternatives 1, 2, and 3. These predictions include the direct, indirect, short-term, long-term, irretrievable, and cumulative effects of implementing these three alternatives.

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1.0 Introduction and Background

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1.3 Direction from and Conformance with Land Use Plans
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1.4.4 Sage Grouse
1.5 Issues Considered but not Addressed
1.6 Issue Objectives Summary

1.1 Location

The Upper Missouri Watershed follows the Missouri River from Coal Banks Landing downstream to the boundary between the River and Woodhawk allotments, approximately eleven miles below the Stafford Ferry. Lands included in this plan are those BLM grazing allotments that actually border the Missouri River plus the Deadman Coulee, Starve Out Flats, Pass Coulee, Eagle Butte, Cutbank Coulee, Sherry Coulee, Mud Springs Coulee, Flat Creek, Black Rock, and Miller Place allotments. The watershed begins at river mile 41.5 and continues downstream to river mile 112.8. Only those allotments that are located on the south side of the river, or river right (the right bank when looking downstream) are included in this watershed. These allotments are in Chouteau and Fergus Counties, Montana. Major tributaries along this 71 mile reach include Arrow Creek and the Judith River.

The watershed planning area contains 130,656 acres (204.15 square miles) including 49,582 acres of land administered by the Bureau of Land Management (BLM) (public land), 16,354 acres of State land and 64,720 acres of private land. See maps M1, M2, and M3.

1.2 Background and Need for Proposed Action

The Judith-Valley-Phillips Resource Management Plan (JVP RMP) (1994), the West HiLine Resource Management Plan (WHL RMP) (1988) and the Upper Missouri River Breaks National Monument Interim Guidance (hereafter referred to as the "Interim Monument Guidance" or "IMG") (2001) specifies land use plan decisions and objectives to be implemented in the Upper Missouri Watershed. The JVP RMP specifies that implementation of riparian/wetland decisions will be conducted on a watershed basis and will consider management of streams, water sources and uplands.

The watersheds administered by the Lewistown Field Office (LFO) were prioritized for implementation of land use plan decisions based on multiple use criteria. The Upper Missouri watershed was given a high priority for management and land use plan decision implementation.

A need exists for environmental analysis when renewing 10-year grazing permits. This watershed analysis will review the allotments in the Upper Missouri Watershed for compliance with the standards for rangeland health (Appendix I). New 10-year grazing permits will be offered at the conclusion of this effort.

1.3 Direction from and Conformance with Land Use Plans

The JVP RMP, WHL RMP, and the IMG set forth the land use decisions and conditions guiding management of public land and minerals within the Upper Missouri Watershed. All uses and activities within the area must conform with the decisions, terms and conditions described in these plans. Appendix J describes the guidance contained in the JVP RMP, WHL RMP, and the IMG that is pertinent to the Upper Missouri Watershed.

The JVP RMP and the WHL RMP were amended by the Standards for Rangeland Health and Guidelines for Livestock Grazing Management Environmental Impact Statement (USDI, BLM, 1997). Standards and guidelines specific for the Lewistown District were then developed by the Lewistown Resource Advisory Council (Central Montana Resource Advisory Council) with the benefit of public participation (Appendices A and I).

The JVP RMP and WHL RMP will be amended by the Fire Management Plan/Plan Amendment for Montana and the Dakotas. The amendments will replace or include language that will bring the mentioned resource management plans up to date with the Federal Wildland Fire Management Policy.

1.4 Issues and Objectives Specific to the Upper Missouri Watershed

1.4.1 Riparian Health

Issue: The riparian area standard established by the Central Montana Resource Advisory Council is not being met for some of the riparian areas on public lands. Livestock are a significant factor in some cases.

Short-term objective: Maintain the 4.3 miles of riparian areas that are in proper functioning condition (PFC). Make significant progress toward achieving PFC on the 8.8 miles of riparian areas in functioning-at-risk (FAR) condition and the 1.1 miles of non-functioning (NF) riparian areas where livestock are a significant factor within the next grazing year.

Long-term objective: Maintain or improve all riparian areas to PFC within 10 years where livestock are a significant factor.

1.4.2 Upland Health

Issue: The upland health standard established by the Central Montana Resource Advisory Council is not being met for some of the upland areas on public lands. Livestock are a significant factor in some cases.

Short-term objective: Maintain the 22 allotments that are meeting the upland standard and take actions that will insure significant progress is made toward meeting the standard on the two allotments that are functioning at risk as a result of livestock grazing.

Long-term objective: Maintain or improve upland areas so that all allotments are meeting the upland health standard or making significant progress within 10 years where livestock are a significant factor.

1.4.3 Weeds

Issue: Noxious weed populations are present on public and private lands mostly on the banks and islands of the Missouri River.

Objective: Continue control on the known noxious weed sites and any new infestations found.

1.4.4 Sage Grouse

Issue: Residual understory vegetation is not adequate to meet the needs of nesting upland game bird (sage grouse) habitat in some allotments.

Objective: Maintain and/or enhance known upland game bird habitat (sage grouse).

1.5 Issues Considered but Not Addressed

The following issues are not addressed in this plan. All will be addressed in the upcoming Upper Missouri River Breaks National Monument plan:

- recreation
- access
- OHV and travel plan
- lands (exchanges and purchases)
- mining
- oil and gas field development plan
- cultural (archeological and historical)

1.6 Issue Objectives Summary

	UPLAND VEG.	RIPARIAN VEG.	WEEDS	SAGE GROUSE
ALT #1	Not meeting objectives on Pass Coulee and PN Sag allotments due to livestock grazing.	Not meeting objectives on Tonne, Dammel, Pass Coulee, Deadman Coulee, Sheep Shed Coulee, Dog Creek, and Iron City allotments due to livestock grazing.	The weed objective is currently being met.	The sage grouse objective is not being met on known occupied habitat in the Tonne, Deadman Coulee and Starve Out Flats allotments.
ALT #2	All allotments would meet upland objectives.	All allotments would meet riparian objectives.	The weed objective would be met.	The sage grouse objective would be met on known occupied habitat on the Tonne, Deadman Coulee, and Starve Out Flats allotments.
ALT #3	All allotments would meet upland objectives.	All allotments would meet riparian objectives without the need for exclosure fences.	The weed objective would be met.	The sage grouse objective would be met on known occupied habitat on the Tonne, Deadman Coulee and Starve Out Flats allotments. Potential habitat would be enhanced on all allotments.

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2.0 Proposed Action and Alternatives

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2.2.4 Sage Grouse
2.3 Alternative 3 - No Grazing
2.3.1 Vegetation Management (riparian and Upland Health)
2.3.2 Weeds
2.3.3 Sage Grouse
2.4 Management Common to all Alternatives
2.4.1 Fire Suppression
2.4.2 Prairie Dogs

In compliance with the National Environmental Policy Act (NEPA), and national BLM policy, an environmental assessment (EA) must be prepared for issuing a livestock grazing permit(s). At a minimum, the EA must address the following: (1) issuing a new permit with the same terms and conditions as the expiring permit, (2) issuing a new permit based on the application (proposed action), and (3) a "no grazing" alternative.

Additional alternatives may be needed in order to address a "reasonable range of alternatives." In this EA the steep terrain (preventing fencing options), the lack of shallow ground water and feasible reservoir sites, limited the range of reasonable alternatives to three, continuation of current management, the proposed action, and no grazing.

2.1 Alternative 1 - Continuation of Current Management

Sometimes called "no action," this alternative renews the grazing permit with the same terms and conditions as the current permit. No changes would be made including no new range improvement projects. If the allotment is currently not meeting standards and guidelines, this alternative provides no measures to take corrective actions.

2.1.1 Vegetation Management (Riparian Health, Upland Health)

Livestock grazing would remain consistent with the current permit. Under this alternative, no new projects would be constructed to protect/enhance riparian or upland values. Issue objectives would not be met in this alternative.

2.1.2 Weeds

BLM would continue weed control efforts within the watershed area as they currently exist. The "Upper Missouri River Breaks National Monument: Guidelines for Integrated Weed Management" (UMRBNM-GIWM) (USDI, BLM, 2001) outlines actions BLM would pursue in weed control for this watershed. A limited use of herbicides along the river would continue, primarily in developed recreation areas; extreme caution would be taken to avoid damage to desirable vegetation, especially woody species. BLM would continue to develop cooperative agreements with livestock grazing permittees for noxious weed control on upland weed infestations. Under these agreements, the BLM agrees to provide the proper type and amount of herbicide and the permittee agrees to apply the herbicide. Application may be made by the properly licensed permittee or may be contracted to a licensed applicator at the permittee's cost. Biological control efforts would continue through release and dissemination of newly available and established biocontrol agents. The issue objectives for weeds would be met in this alternative.

2.1.3 Sage Grouse

Sage grouse habitat would remain as it currently exists. No new projects or changes in grazing systems would be implemented to protect/enhance sage grouse habitat. The objectives of the sage grouse nesting issue would not be met with this alternative.

2.2 Alternative 2 - Proposed Action

This alternative proposes corrective actions for those allotments not meeting standards and guidelines. No changes are proposed for those allotments that are currently meeting standards and guidelines.

2.2.1 Vegetation Management (Riparian and Upland Health)

Standards for livestock grazing developed by the Central Montana Resource Advisory Council (Appendices A & I) state that uplands should be meeting or making significant and measurable progress towards meeting the upland and riparian standards. Should monitoring show that pastures/allotments are not meeting standards and are not making significant progress toward proper functioning condition, corrective actions would be imposed. These corrective actions are described in Appendix F. Under these standards, soils should be stable and provide for capture, storage and safe release of water appropriate to soil type, climate, and land form. The amount and distribution of ground cover for identified ecological sites(s) or soil-plant associations should be appropriate for soil stability. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface scaling and compaction layers below the soil surface should be minimal. Ecological processes including hydrological cycle, nutrient cycle and energy flow should be maintained and support healthy biological populations. Plants should be vigorous, biomass production should be near potential and there should be a diversity of species characteristic and appropriate to the site.

Significant progress towards meeting standards would be accomplished and guidelines followed through a variety of management techniques. Management on allotments that are not meeting standards would be changed to improve resource conditions and meet standards.

Changes to allotment management include increasing length of rest periods between grazing periods, changing season of use, livestock turnout location, grazing intensity, duration of grazing and/or improving livestock distribution. In some cases exclosure fencing would be used to protect riparian areas. Improved livestock distribution would occur through construction of water developments and fences, selective salt placement and changes to livestock turn-out location and season of use. In some instances several allotments would be merged into one allotment as these allotments are permitted to one permittee. Specific details are listed by allotment *starting in Section 2.2.1.1.*

Guidelines for livestock grazing management were developed specifically for this watershed. These guidelines were *developed based on a review of general guideline recommendations created by the RAC. Guidelines are listed in Appendix A.*

A four inch stubble height or 50% utilization limit of upland grass species would be implemented as part of this alternative. The 4 inch stubble height or 50% utilization limit is based on studies that demonstrate greater vigor of grasses grazed at moderate levels. (Van Pollen and Lacey 1979, Troxel and White 1989, Vallentine 1990). The stubble height requirement would not be enforced during drought periods if grasses are severely stunted by drought. In times of severe drought, utilization measurements would be used instead of stubble height measurements.

Range improvement projects such as fencing and water developments would be constructed to improve resource conditions and better distribute cattle. Cooperative agreements and cost share proposals would be developed with permittees to construct or rebuild range improvements. Ten-year permits/leases would be offered for all allotments and standards and guidelines would be incorporated into the permit.

The table in Appendix K describes the current status of the allotments and permits/leases in the watershed. Map M1 in the appendix shows the location of the allotments. Appendix H shows the type of grazing system for each allotment.

Custodial use is a type of use in which livestock use on public lands is managed in conjunction with private lands. This type of use is normally permitted when small blocks of unfenced public land are intermingled with large blocks of private land.

Allotments were assessed for upland range health in 2000. Rangeland health is defined as the degree to which the integrity of the soil, vegetation, water and air as well as the ecological process of the rangeland system are balanced and maintained. Three methods were used to assess allotments to determine if uplands were healthy and meeting upland standards: ecological site index (NRCS method); upland rangeland health indicators; and soil surface factors. The Natural Resource Conservation Service ecological site index system score is listed under each allotment. Under this method, the higher the score, the higher the seral stage and the more likely the allotment is meeting the upland standard.

The rangeland health assessments uses indicators to assess the structure and function of the rangeland. A rating is then assigned based on the indicators and a review of other study results. Under this rating, allotments are placed in one of three categories: properly functioning condition (PFC), functioning at risk (FAR) and non-functioning (NF). Allotments that are in PFC meet the upland standard and allotments that are FAR and NF do not meet the standard.

Rangelands that are meeting the upland standard generally have upland plant communities in late seral or potential natural community (climax) stage. Mid seral or low seral plant communities may or may not meet the upland health standard depending on other rangeland health indicators such as the level of biodiversity, plant community structure, functioning of the water or nutrient cycle, presence of noxious weeds, or levels of soil erosion etc. Detailed descriptions of the study methodologies can be found under Chapter 3 in the upland range health section. The breakdown in the NRCS score categories is:

- Greater than 75 = potential natural community or climax conditions
- 50-74 = late seral stage

- 25-49 = mid seral stage
- 0-24 = early or low seral stage

Under the proposed action, the following actions would be implemented to meet standards or make significant progress towards meeting rangeland health standards on individual allotments. Allotments are listed starting from the upstream edge of the watershed near Coal Banks downstream towards the eastern edge of the watershed below Stafford Ferry (maps M2 & M3). Riparian polygons referred to below are not shown in this document. Their locations are on file in the BLM LFO and available for public viewing.

2.2.1.1 Rattlesnake, Allotment-09714, Permit-256766 (Fultz)

Upland health status and objectives:

- 09714-01-01 Meeting upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

- 09714-01-02 Meeting upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

- 09714-01-03 Meeting upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

Riparian health status and objectives:

- Polygons 1318 and 1377-8 are in FAR category and not meeting standards. They are subject to scour from ice and high flows. Livestock are not the major factor contributing to the FAR rating.

Current management would continue. No range improvement projects planned.

2.2.1.2 Black Rock, Allotment-09839, Permit-256892 (Trunk)

Upland health status and objectives:

- Uplands are meeting standards. Maintain upland range health.

Riparian health status and objectives:

- No significant riparian habitat currently exists.

Continue current management. No range improvement projects planned.

2.2.1.3 Miller Place, Allotment-19652, Permit-256705 (Crawford)

Upland health status and objectives:

- Meeting upland standard.
- Maintain in late seral (ecological site index score of 50 or higher).
- Maintain upland range health.

Riparian health status and objectives:

- No significant riparian habitat currently exists.

Continue current management. No range improvement projects planned.

2.2.1.4 Tonne, Allotment-09838, and Able Place, Allotment-09653, Permit-256705 (Crawford)

Upland health status and objectives:

- Able Place allotment: 09838-01-02 (T-1) is meeting the upland standard. Improve vegetation composition by increasing ecological site index score from mid seral score of 37 to late seral score of 50-74 within 10 years. Maintain upland range health. 09838-01-02 (T-1) is meeting the upland standard. Improve vegetation composition by increasing ecological site index score from mid seral score of 48 to late seral score of 50-74 within 10 years. Maintain upland range health.

- Tonne allotment (Crawford): 09838-02-01 (T-1) is meeting the upland standard. Maintain vegetation in late seral (ecological site index score of 50-74). Maintain upland range health.
  09838-02-02 (T-2) is meeting the upland standard. Improve vegetation composition by increasing ecological site index score from mid seral score of 35 to late seral score of 50-74 within 10 years. Maintain upland range health.

Riparian health status and objectives:

- Polygons 1410-20 and 1474-80 are not meeting standards. They are all at FAR condition. An exclosure was constructed around polygons 1410-20 and they are making significant progress toward PFC.

- Polygons 1474-80 are being grazed during the hot season by unknown livestock from neighboring allotments. Maintain the exclosure and enforce control of livestock. Increase the vegetative component score of the health rating to 80 or above.

Tonne and Able Place allotments are meeting upland standards, however small portions of Tonne Allotment (less than 5%) are not meeting the upland standard as a result of blue grama/dense club moss dominated sites. Current livestock use is not a significant factor. An Allotment Management Plan (AMP) was written in 1976 but was never fully implemented. In recent years, the allotment has not been fully stocked and in some years has received little use. A pasture rotation needs to be planned and implemented so that grazing is not detrimental if the allotment is fully stocked. Under this proposed action, a rotation similar to that outlined in the original AMP would be implemented. Able Place and Tonne are two allotments under the same permit. These allotments would be merged into one allotment named White Rock. Tonne and Able allotments would become pastures within White Rock Allotment. A two pasture deferred rotation grazing system would be implemented. Season of use would be 5/1-12/1. Animal Unit Months would continue to be set at 329 AUMs (159 Tonne, 170 Able Place).

Under the deferred rotation system, grazing use would be spring/summer (5/1-8/1) on Tonne Pasture for two consecutive years followed by late summer/fall use (8/1-12/1) on Able Place Pasture. The third year, grazing use would be spring/summer on Able Place (5/1-8/1) followed by late summer/fall use on Tonne place (8/1-12/1).

This rotation would give cattle an opportunity to graze crested wheatgrass early on private lands in Tonne Pasture on most years while still providing an alternating use pattern so that plants are periodically grazed at different times of the year.

BLM would provide the permittee use of a chisel plow to mechanically treat 50-100 acres of clubmoss/blue grama in Tonne Pasture in T25N R13E Sec 7. This project would enhance sage grouse habitat particularly if sagebrush becomes established in the treatment. An archeological survey would be conducted prior to treatment to insure archaeological/cultural sites are not adversely impacted. The treated area may be seeded to weed-seed free native plant species and would be rested from livestock grazing for two growing seasons. The seed mix would be purchased by the BLM and would include western and thickspike wheatgrass, green needle grass and sagebrush. The permittee would be responsible for providing a tractor, fuel, and labor. This project proposal is shown in map M2. A cooperative agreement would be developed between the BLM and permittee to treat noxious weeds found on uplands on the allotment (map M6).

2.2.1.5 Kipps Rapids, Allotment-09729, Permit-256781 (Goldhahn)

Upland health status and objectives:

- 09729-01-01 (T-1) is meeting the upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

Riparian health status and objectives:

- No significant riparian habitat currently exists.

Continue current management. No range improvement projects planned.

2.2.1.6 Eagle Butte, Allotment-19655, Permit-256707 (Arnst)

Upland health status and objectives:

- 19655-01 is not meeting the upland health standard because of an influx of annual grasses and weeds. Allotment consists of two small parcels of public land surrounded by grainfields. Current livestock grazing is not a factor. These parcels of land are on the disposal list in the JVP RMP and no objectives would be set.

Riparian health status and objectives:

- No significant riparian habitat currently exists.

Currently non-use. Maintain as custodial use if livestock use resumes. No range improvement projects planned.

2.2.1.7 Sherry Coulee, Allotment-09681, Permit-256733 (Clark)

Upland health status and objectives:

- 09681-01-01 is meeting the upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

Riparian health status and objectives:

- No significant riparian habitat currently exists.

Continue current management. No range improvement projects planned.

2.2.1.8 Hole in the Wall, Allotment-09799, Permit-256853 (Qunell)

Upland health status and objectives:

- 09799-02-01 is meeting the upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

- 09799-02-02 and 09799-03-03 are meeting the upland standards. Improve vegetation composition by increasing ecological site index score from mid seral score of 38 to late seral score of 50-74 within six years. Maintain upland range health.

Riparian health status and objectives:

- Polygons 1521-6 are currently not meeting standards but are making significant progress toward PFC. Continue current grazing system and enforce control of livestock.

An AMP was implemented in 1992. This AMP improved riparian and upland conditions, however drought conditions in 1999 and 2000 have hindered progress in uplands. In addition trespass cattle in 2000 negatively impacted riparian vegetation in the Lower Pasture. Once favorable conditions prevail, improvement is expected to continue.

Continue current management which includes three pasture deferred rotation system. Under this system, use on Middle and Upper pastures would occur during the summer and fall in an alternating pattern. Lower pasture would be used in May each year. Management focus will be primarily on cottonwood/willow regeneration downstream from campground. No range improvement projects planned.

Pasture rotation would be as follows:

- Year 1: Lower 5/1-5/26 (3 wks), Middle 5/27-8/30 (12 wks), Upper 8/31-11/15 (10 wks).

- Year 2: Lower 5/1-5/26 (3wks), Upper 5/27-8/11 (10 wks), Middle 8/12-11/16 (12 wks).

2.2.1.9 Mud Springs Coulee, Allotment-09662, Permit-256778 (Henderson)

Upland health status and objectives:

- 09662-01-01 is meeting the upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

Riparian health status and objectives:

- No significant riparian habitat currently exists.

Continue current management. No range improvement projects planned.

2.2.1.10 Dammel Lease, Allotment-09687, Permit-256739 (B. M. Lund)

Upland health status and objectives:

- 09687-01-01 is meeting the upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

- 09687-01-02 is meeting the upland standard. Improve vegetation composition by increasing ecological site index score from mid seral score of 40 to late seral score of 50-74 within six years. Maintain upland range health.

Riparian health status and objectives:

- Polygons 1539-42 and 1562 are currently not meeting standards. Implement the AUMs reduction and enforce the cool season livestock use in the River pasture. Increase vegetative component score of health rating to 80 or better.

The allotment is meeting upland health standards but not meeting riparian standards. Excessive livestock use is occurring along river. Range assessments conducted in 2000 determined that AUMs had been allocated to unsuitable range on the bluffs above river. This range is unsuitable because of the degree of slope and lack of forage.

The allotment would be split into two pastures: River and Upper. *River pasture would be used during the cool season for a two to five week period between 5/10 and 6/16. Cattle numbers would vary between 30-100 head of cattle but 60 head would normally be turned out. A maximum of 38 AUMs would be used each year. Under this proposal several combination of numbers and times are possible, however time frames would be limited by the number of AUMs available. If 100 head are turned out, use would be limited to eleven days (38 AUMs). If 30 pair were turned out, use would be limited to 38 days (38 AUMs). If 60 pair were turned out, use would be limited to 19 days (38 AUMs).*

Because of a lack of suitability of range in steep rugged bluffs above river, 72 AUMs will be taken out of permit. Upper Pasture will be custodial use from 3/1-2/28 with AUMs set at 28 AUMs. Pastures are shown on map M2. No range improvements are planned.

2.2.1.11 Cutbank Coulee, Allotment- 09700, Permit-256752 (Duvall)

Upland health status and objectives:

- 09700-01-01 is meeting the upland standard. Maintain vegetation in late seral (ecological site index score of 50 or higher). Maintain upland range health.

Riparian health status and objectives:

- No significant riparian habitat currently exists.

Maintain current management. No range improvement projects are planned.

2.2.1.12 Pass Coulee, Allotment-09777, Permit-256831 (Mittal)

Upland health status and objectives:

- 09777-01-01 is not meeting the upland standard. Improve vegetation composition by increasing ecological site index score from mid seral score of 39 to late seral score of 50-74 within eight years.

Riparian health status and objectives:

- Polygon Flat Creek-1 is not meeting standards. Livestock grazing is the major factor. BLM will construct two riparian exclosures on Flat Creek on public land in T22N R14E Sec 9 NENW and SENE. The permittee will be responsible for their maintenance. Increase health rating to 80 or better.

The standard for upland health and riparian health is not being met and actual use is not in line with determined allocations. Although 157 AUMs were originally allocated, permitted use was reduced to 115 AUMs in a decision made by the BLM based on the Missouri Breaks Grazing Environmental Impact Statement (EIS) in 1981. The permit was not reduced to 115 AUMs after the 1981 decision and actual use has remained at or near 157 AUMs. Permit would now be reduced to 115 AUMs.

In order to bring permitted use in line with levels previously determined in 1981 and improve upland range health, season of use would be changed from 5/1-11/17 to 7/1-11/1. Custodial use for cattle would be changed to active use. Numbers would remain at 40 pair of cattle. Horse use would be changed from 12/15-3/15 to 7/1-11/1, numbers to remain at two horses. These changes would ensure progress is made towards meeting the upland standard by providing vegetation rest from grazing during the early portion of the growing season when soil moisture is high. The two riparian exclosures would be approximately 1/4 mile long and 100 feet wide and would not be large enough to significantly affect the forage base of the permittee. Proposed exclosures are shown on map M4. *To further assist recovery of riparian areas, the permittee could install a water pump and pump water away from Flat Creek to reduce livestock impacts to riparian areas. Private land could be fenced separate from public land if the permittee requested to graze adjacent public lands separately from private lands. The permittee has proposed these options as a future possibility, however no concrete agreement or plans have been developed at this time.*

2.2.1.13 Sheep Shed Coulee, Allotment-19837, Permit-256893 (Trunk)

Upland health status and objectives:

- 19837-01-03 Formerly Last Chance Bench Allotment T-1. Not meeting the upland health standards. Use by unknown livestock is a significant factor. Improve vegetation composition by increasing ecological site index score from mid seral score of 28 to late seral score of 50-74 within six years. Maintain upland range health.

- 19837-01-05 Formerly Last Bench allotment T-2. Meeting the upland health standards. Improve vegetation composition by increasing ecological site index score from mid seral score of 48 to late seral score of 50-74 within six years. Maintain upland range health.

- 19837-01-02 Meeting the upland health standards. Maintain vegetation composition in late seral (ecological site index score of 50-74). Maintain upland range health.

- 19837-01-01 Meeting the upland health standards. Improve vegetation composition by increasing ecological site index score from mid seral score of 45 to late seral score of 50-74 within six years. Maintain upland range health.

- 19837-01-04 Formerly a portion of Flat Creek allotment. Meeting the upland health standards. Maintain vegetation composition in late seral (ecological site index score of 50-74). Maintain upland range health.

Riparian health status and objectives:

- Polygon Sheep Shed Coulee #1 is not meeting standards due to natural processes. Livestock grazing is not a major factor.

- Polygons 1562, 1592-8, 1603-4, 1637 and Sheep Shed Coulee #2 are not meeting standards due to impacts from livestock grazing. Polygons 1592-8 are located in a recently constructed exclosure and are making significant progress toward PFC. An exclosure is proposed for polygons 1603-4 in T23N R14E Sec 10 SESE. BLM will construct the exclosure to protect the green ash stand. The permittee is responsible for its maintenance. Proposed actions include maintaining the current exclosure, constructing the new riparian exclosure, and implement proposed grazing systems. These actions should improve the health ratings on polygons 1562 and 1637. Improve all vegetative component scores of the health rating to 80 or above.

The allotment is meeting the upland health standard and not meeting the riparian standard. Majority of cattle use occurs along the river and better distribution of cattle is needed. An AMP was written in 1983 but was never fully implemented. Three allotments are listed on the current permit: Last Chance Bench; Sheep Shed Coulee; and Flat Creek allotments. Since these allotments are under one permittee they would be better administered as one allotment.

Maintain as active use; season of use 6/1-9/15. The three allotments would be merged and permitted as Sheep Shed Coulee allotment. The 151 AUMs from Last Chance Bench Allotment and 80 AUMs from Trunk's portion of Flat Creek allotment will be added to the existing 466 AUMs for Sheep Shed Coulee Allotment. Permitted use for Sheep Shed Coulee allotment would be 697 AUMs. BLM will require permittee to turn cattle out in a different location each year to better distribute livestock use. The permittee would turn out all cattle in the south portion of allotment the first year and turn out livestock in the north portion of allotment the next year. Barb wire from dilapidated range fences in T23N R14E Sec 21 would be removed by the BLM. If standards are not maintained on uplands or riparian areas a three pasture deferred rotation grazing system will be set up by rebuilding fence south of watersaver (T23N R14E Sec 29 NE, Sec 28 N2 and Sec 27 NW) and a fence along Sheep Shed Coulee Road in T23N R14E Sec 16 and 17. The fences would split the allotment into three units as shown on map M4 and would be rebuilt by the permittee.

If the allotment is split into pastures, the pasture configuration and rotation would be as follows:

- South pasture would include the southern portion of Last Chance Bench allotment.

- Central pasture would include the northern portion of Last Chance Bench allotment and north portion of Flat Creek.

- North pasture would include portions north of Sheep Shed Coulee Road plus portions east of Sheep Shed Coulee.

Pasture rotation would be as follows:

- Year 1: South 6/1-7/1 (4 wks), Central 7/2-8/1 (4 wks), North 8/1-9/15 (6 wks)
- Year 2: Central 6/1-7/1 (4 wks), North 7/2-8/15 (6 wks), South 8/15-/9/15 (4 wks)
- Year 3: North 6/1-7/15 (6 wks) South 7/16-8/15 (4 wks), Central 8/15-9/15 (4 wks)

2.2.1.14 Flat Creek, Allotment-09826, Permit-256880 (Trunk), 256845 (Buck)

Upland health status and objectives:

- 09826-01-01 Meeting upland health standard. Maintain vegetation composition in late seral (ecological site index score of 50-74). Maintain upland range health.

Riparian health status and objectives:

- No significant riparian habitat currently exists.

This allotment is permitted to two permittees but is not managed in common (a fence divides the allotment). This is not consistent with BLM direction in administration of permits. The permit would be changed to match the administrative realities. The 80 AUMs permitted for Trunk (north portion) would be incorporated into Sheep Shed Coulee Allotment. The permit for Buck's portion (south portion) of Flat Creek allotment would remain the same. No range improvement projects planned.

2.2.1.15 Starve Out Flats, Allotment- 09808, Permit-256862 (Goldhahn M.)

Upland health status and objectives:

- 09808-01-01 (T-1): Meeting upland health standard. Maintain upland vegetation in late seral (ecological site index score of 50-74). Leave seven inch stubble height on bluebunch wheatgrass at end of growing season to provide habitat for next years sage grouse nesting (see stubble height narrative on page 17). Maintain upland range health.
- 09808-01-02 (T-2): Not meeting upland health standard. Current livestock use is not a significant factor. Study site is near a prairie dog town. Maintain vegetation in early to mid seral (ecological site index score of 0-50). Site will continue to not meet the upland standard because of prairie dogs.

Riparian health status and objectives:

- The riparian health of the 0.75 miles of Fahlgren Coulee in this allotment was not assessed. Establish a riparian monitoring site on Fahlgren Coulee, T22N R15E Sec 7 NW (map M4). Maintain or increase the riparian health score to 80 or better.

Maintain current management. The permittees on Starve Out Flats and Deadman Coulee allotments have proposed a joint range improvement project to install a pipeline and water tanks to provide better quality water to cattle and better distribute livestock use. At the present time, this project does not appear feasible, however if such a proposal is worked out in the near future, the BLM would cooperate with this effort and cost share the public land portion of this project. If this project is completed Starve Out Flats allotment would be grazed as a two pasture deferred rotation. The allotment was recently divided into two pastures through construction of fence on private land, however the upper pasture does not have water.

The public land portion of this permit would continue to be set at 48 pair of cattle with 291 AUMs allocated.

If a pipeline is constructed a rotation would be set up as follows:

- Year 1: North Pasture 5/15-9/1 (14 wks) South Pasture 9/1-11/15 (10 wks)
- Year 2: South Pasture 5/15-8/1 (10 wks), North Pasture 8/2-11/15 (14 wks)

The BLM would enter into cost share with permittee to rebuild portion of a barb wire fence in T22N R15E Sec 18 W2 and Sec 7 SW. BLM would provide fence posts and permittee would supply labor to replace the existing posts.

A seven inch, end of season, stubble height standard would be established for *bluebunch wheatgrass* in T22N R15E Sec 18 & 19 to provide adequate cover for sage grouse nesting at the initiation of the nesting season. Guidelines prepared for the Western Association of Fish and Wildlife Agencies (Connelly et al. 2000) recommend that sage grouse breeding habitats (exclusive of leks) are managed to support perennial herbaceous cover averaging at least 18 cm (seven inches) in height. This recommendation was originally derived from research done in Oregon (Gregg et al. 1994) that showed nest predation rates to be lower if the grass understory was greater than seven inches than in stands with less grass heights. *Bluebunch wheatgrass would be the key species measured.* If this stubble height criteria is not being met the BLM will arrange for this portion of the allotment to be fenced away from the remainder of the allotment and grazed separately. Stubble height will be monitored at existing transect T-1 in NW of Section 19.

If Conservation Reserve Program lands (CRP) on private lands in Starve Out Flats are taken out of CRP status, a three pasture system would be implemented.

2.2.1.16 Deadman Coulee Allotment-09778, Permit-256832 (LBR)

Upland health status and objectives:

- 09788-01-01 Meeting the upland health standards. Maintain potential natural community (ecological site index score of 75 or more). Maintain upland range health. Maintain seven inch end of season stubble height on bluebunch wheatgrass to provide habitat for next years sage grouse nesting.
- 09778-01-03 Meeting the upland health standards. Maintain potential natural community (ecological site index score of 75 or more). Maintain upland range health. Maintain seven inch end of season stubble height on bluebunch wheatgrass for habitat for next years sage grouse nesting.

Deadman Coulee is meeting the upland health standard except for small portion on west end of allotment. Currently the majority of cattle use occurs on west portion of allotment.

Riparian health status and objectives:

- Polygon Fahlgren Coulee-1 is not meeting standards due to livestock grazing. Implement the four pasture rotation system. Increase the health score to 80 or better.

- Deadman Coulee allotment is meeting the upland health standard and not meeting the riparian standard.

An AMP was written in 1983. Under this AMP, a rotation grazing system was planned but never implemented. To meet the riparian standard a four pasture rotation would be established. The three contiguous pastures in the eastern portion would be permitted as active use from 5/15-11/1 with 160 cattle. The east pasture would be used early because of crested wheatgrass in this pasture. The west pasture would be permitted as year round custodial use but would normally be used during the winter from 1/1-5/15. Total public land AUMs for the allotment would remain at 982 AUMs.

The rotation would be as follows:

- Year 1: East Pasture 5/15-6/21 (5 wks), Fahlgren Pasture 6/21-8/15 (7 wks), Flat Creek Pasture 8/15-10/1 (6 wks), West Pasture (winter use) 1/1-5/15 (18 wks)

- Year 2: East Pasture 5/15-6/21 (5 wks), Flat Creek Pasture 6/21-8/7 (6 wks), Fahlgren Pasture 8/8-10/1 (7 wks), West Pasture (winter use) 1/1-5/15 (18 wks)

To insure adequate nesting cover for sage grouse, a seven inch, end of season, stubble height standard would be established for *bluebunch wheatgrass* at monitoring point T-3 in T22N R14E Sec 12 SW and monitoring point T-1 in T22N R15E Sec 19 SWNW (refer to stubble height justification in Starve Out Flats proposal). If the stubble height criteria is not being met the BLM will arrange for this portion of the allotment to be fenced away from the remainder of the allotment and grazed separately.

If a pipeline is constructed across Deadman Coulee and Starve Out Flats allotments, the BLM would cooperate and cost share portions of the pipeline that cross public lands. This project would provide water through installation of pipeline and water tanks on public lands and private lands. The stock tank location on public land would be T22N R14E Sec 12 SENE. The pipeline would provide additional water to Fahlgren and East pasture and reduce livestock grazing pressure on riparian areas.

2.2.1.17 PN Allotments: PN Ranch operates under Permit-256062 and is comprised of the following Allotments: PN Sag Allotment (15123), 19 Dog Creek (15126), 20 Dog Creek 20 North (15124), 21 Dog Creek South (15125) and PN Individual, Allotment-09791, Permit-25685

PN Sag allotment is not meeting the upland health standard and current livestock management is a significant factor. 19 Dog Creek allotment (15126) is also not meeting the upland health standard however current livestock use is not a factor. Many of the riparian areas in the Dog Creek allotments are not meeting the riparian standard. Study result and objectives are listed under each allotment.

Summary of proposed grazing system:

- The proposed action would change summer use in Dog Creek allotment to fall/winter use. Two deferred rotation grazing systems would be established in PN Sag that would allow summer/fall use. Winter use would continue along the Judith River.

- The rotation would be as follows: Two herds consisting of 540 total cattle would be turned out in Big Sag on 6/1. The two herds would be rotated through six pastures of PN Sag and would be taken off on or around 10/15. A portion of the 540 cattle would be moved to the Judith River allotment for the winter on 10/15. The other portion of the 540 cattle (150-250 cattle) would be moved into Dog Creek from 10/15-3/1. After 3/1 the cattle from Dog Creek allotment would move back to Judith River allotment until 6/1. Cattle will be fed supplemental feed on private portions of Judith River allotment during the winter.

Pasture reconfiguration:

- Allotment pasture numbers would be changed to names as shown on map M3. PN Sag, Dog Creek, Judith River and PN Individual allotments would continue to be used together. Dog Creek Allotments (19, 20, & 21) would be combined into one allotment with three pastures.

- New fences have been installed in Middle Missouri and West Sag pastures dividing these pastures in a different location. Actual use has been difficult to track and measure because some pastures have been merged together and some pastures split. AUMs need to be allocated according to the existing pasture configuration and the pasture labeling system should be changed to reflect current pasture configuration.

- Portions of base property has been placed in the conservation reserve program (CRP) in the West Sag and portions of the Big Sag pastures. The private land AUMs and intermingled AUMs from public lands in this pasture would be taken out of the carrying capacity tabulations as these lands cannot normally be grazed under CRP regulations. The public land AUMs would be placed in non use until the CRP contract expires. If public land is fenced separate from CRP land or temporary use of CRP is allowed due to drought or other emergency, the permittee may apply for use of the 102 public land AUMs that are intermingled with CRP lands.

- Because of changes in land use in which some public portions are intermingled with CRP and cannot be grazed, some private lands were previously farmed and can now be grazed, and changes in pasture boundaries, AUMs were retabulated for all three allotments. Under this proposal, public land AUMs for all three allotments would change from 1874 to 1778 AUMs. This reduction reflects the carrying capacity of the public land that is currently available for grazing.

- The three pastures (12, 23, 25) along the Judith River would continue to be permitted as one allotment with custodial use.

However because of pasture reconfiguration in Big Sag Allotment, West Judith pasture (formerly pasture 8) a portion of the AUMs and lands from West Judith would be added to Judith River according to the current pasture split. The 40 acre public land parcel known as PN individual allotment would continue to be grazed as a part of Arrow Creek North pasture. Actual use reporting from the permittee will be continued to be required each year.

2.2.1.18 PN Sag Allotment-15123 Pastures 1-9, Permit-256062 and PN Individual Allotment-09798, Permit-256852

Upland health status and objectives:

- 15123-07-01 Meeting upland health standard but problems exist. Current livestock grazing is a factor. Improve vegetation composition but increasing ecological site index score from mid seral score of 45 to late seral (score of 50 or higher) within six years. Maintain upland range health.

- 15123-11-1 Not meeting upland health standard. Current livestock grazing is a significant factor. Improve vegetation composition by increasing ecological site index score from mid seral score of 38 to late seral score of 50-74 within six years.

- 15123-01-01 Not meeting upland health standard. Current livestock grazing is a significant factor. Improve vegetation composition by increasing ecological site index from mid seral score of 44 to late seral score of 50-74 within six years.

Riparian health status and objectives:

- Polygons 1680-2 are not meeting standards due to ice scour and flow regulation. Livestock are not a significant factor.

PN Sag allotment is not meeting the upland health standard and livestock grazing is a significant factor. Because a problem exists with identification of pasture names and numbers between the BLM and permittee, pasture numbers would be changed to names (map M3). PN Sag allotment would include pastures 1-9 and portions of pasture 8. Pastures 12, 23 and 25 would become part of the Judith River allotment as management needs are different for these pastures.

In order to improve conditions and reach objectives for upland range health, two deferred rotation grazing systems would be used. Cattle numbers would be set at a total of 540 cattle. Because of changes in land use and allotment/pasture reconfiguration, AUMs were re-evaluated. The 424 AUMs from Big Sag pastures 12, 23, and 25 and portions of pasture 8 would be taken out of the Big Sag allotment and permitted as the Judith River Allotment. Because of this change, permitted use for public lands on Big Sag allotment would change from 980 to 454 AUMs. An additional 102 AUMs would still be allocated to public land that is intermingled with CRP lands in this allotment. These AUMs would be placed in non-use. Permittee could apply for use of these AUMs if public land is fenced separately from private CRP lands or emergency grazing of CRP lands is authorized. The change in AUMs and numbers reflects the established carrying capacity of public lands that are currently available for grazing.

Under the proposed action, a herd numbering 325 cattle would graze Big Sag and the Arrow Creek Pastures from 6/1-10/15. The second herd numbering 215 cattle would graze Upper Missouri, West Judith pastures and private land. Arrow Creek North and South have been operated as one pasture but would now be operated as two independent pastures. Each year cattle would be rotated through these pastures in a different sequence. PN individual allotment (09798) is a 40 acre Section 15 grazing lease and would be managed with Arrow Creek North pasture. The rotation would be as follows:

Herd One, 325 cattle:

- Year 1: Big Sag 6/1-7/31(8 wks), Arrow Ck S. 8/1-9/15 (6 wks), Arrow Ck N. 9/16-10/15 (4 wks)
- Year 2: Arrow Ck S. 6/1-7/15 (6 wks), Arrow Ck N. 7/16-8/15 (4 wks), Big Sag 8/16-10/15 (8 wks)
- Year 3: Arrow Ck N. 6/1-7/1 (4 wks), Big Sag 7/1-9/1 (8 wks), Arrow Ck S. 9/1-10/15 (6 wks)

Herd Two, 215 cattle:

- Year 1: Upper Missouri 6/1-7/15 (6 wks), Wilson private 7/16-9/7 (7 wks), W. Judith 9/8-10/15 (5 wks)
- Year 2: *Wilson private 6/1-7/21 (7 wks), Upper Missouri 7/22-8/31 (5 wks), W. Judith 9/1-10/15 (6 wks)*
- Year 3: W. Judith 6/1-7/7 (5 wks), Upper Missouri 7/8-8/22 (6 wks), Wilson private 8/23-10/15 (7 wks)

Wilson private land is not managed by BLM and is listed only to show rotation sequence.

2.2.1.19 Judith River, Allotment-15125, Permit-256062

Upland health status and objectives:

- 15125-23-1 Meeting upland health standard. Maintain vegetation in late seral (ecological site index score of 50-74) Maintain upland range health.
- 15125-12-1 Not meeting upland health standard. Maintain vegetation in late seral (ecological site index score of 50-74) Maintain upland range health (study plot burned recently).

Riparian health status and objectives:

- Polygons 1754-6 are not meeting standards due to ice scour and flow regulation. Livestock are not a significant factor.

Judith River allotment (pastures 12, 23 and 25 of Big Sag) is meeting the upland health standard except for one study site that recently burned in pasture 12. Current grazing is not a significant factor at this study site. No significant riparian areas exists on this allotment. A reconfiguration of pastures is needed to reflect the current situation.

Pastures 12, 23, and 25 would be permitted as Judith River Allotment. These pastures were formerly a portion of Big Sag allotment. A portion of Middle Missouri pasture (pasture 8) would be incorporated into this allotment. Because of the incorporation of portions of Middle Missouri Pasture, permitted use would change from 402 to 418 AUMs. Judith River allotment would be permitted as year round custodial use, however most use would occur in fall and winter.

2.2.1.20 Dog Creek, Allotments-15124, 15125, and 15126, Permit-256062

Upland health status and objectives:

- 15124-21-1 Windmill Pasture. Meeting upland health standard. Improve vegetation composition by increasing ecological site index score from mid seral score of 38 to late seral score of 50-74 within six years. Maintain upland range health.
- 15124-20-1 Lower Missouri Pasture. Meeting upland health standard. Maintain vegetation in late seral conditions (Ecological site index score of 50-74). Maintain upland range health.
- 15124-19-1 Lower Dog Creek Pasture. Not meeting upland health standard because of blue grama/clubmoss dominated sites. Current grazing management is not a significant factor. Improve vegetation composition by increasing ecological site index score from mid seral score of 30 to late seral score of 50-74 within 10 years.

Riparian health status and objectives:

- Polygons 1944-5, and Dog Creek 6, 7, and 8 (1994) are not meeting standards due to livestock grazing. Implement the proposed actions mentioned above and increase health scores to 80 or better.
- Polygons 1884-92, 1931-2, and 1936-9 are meeting standards. Maintain current grazing systems on polygons 1884-92, 1931-2, and 1936-9.

Dog Creek is meeting upland health standards except for blue grama/clubmoss dominated sites near Dog Creek and portions of River Pasture. Current livestock management is not a significant factor. Many of the riparian areas in Dog Creek are not meeting standards. The riparian areas on the Missouri River in 20 Dog Creek North are meeting standards.

Livestock use dates would change from hot season to cool season grazing except for emergency situations. 19 Dog Creek, 20 Dog North, 21 Dog Creek allotments would be permitted as one allotment named Dog Creek allotment. All three former allotments would be pastures in Dog Creek Allotment. Season of use would be 10/15-3/1. Cattle numbers would be set at 250 animals. Permitted use would remain the same with 894 public land AUMs.

Pastures would be renamed to clarify actual use reporting and communication with permittee:

- 19 Dog Creek would be changed to Lower Dog Creek
- 20 Dog Creek would be changed to Lower Missouri
- 21 Dog Creek would be changed to Windmill pasture.

A rotation would be established as follows: Lower Missouri Pasture 10/15-12/15, Windmill/Dog Creek 12/15-3/1. Cattle would be moved onto private land or Judith River Allotment from 3/1-5/31, and then turn out onto the PN Sag Allotment on 6/1. Windmill and Lower Dog Creek pastures would be used together unless monitoring demonstrates a need to use these pastures separately.

Treatment of blue grama clubmoss sites would be completed through the use of concentrated animal use to break up sod and allow other deeper rooted grasses to grow. These areas are identified on map M5. Supplemental feeding would be done on these sites to concentrate animals for a short period (2-3 days per site). Weed free hay or cake would be used as a supplement. This type of treatment would occur only in Dog Creek and would be a one time treatment to improve range conditions. BLM may seed these sites to a weed-seed free native seed mix prior to supplemental feeding. Seed mix would include green needle grass, western wheatgrass and thickspike wheatgrass. A cultural resource review would be conducted prior to treatment to insure archeological sites are not adversely affected. Following treatment, permittee must rest treated area from grazing during the growing season for two years.

Dog Creek and Windmill Pastures may be grazed during a period between 6/1-10/1 on occasion, however permittee must apply for such use. Approval of summer use will be granted only after woody vegetation along Dog Creek has reached a height of six feet or more. Summer use will be for emergency situations and will not be granted in any two consecutive years (no more than one year out of three). Regardless of season of use, the AUM allocation would not be exceeded. Use in the summer may mean that fall/winter use will be reduced or not occur. Lower Missouri Pasture will be used only during cool season.

The BLM would enter into a cost share agreement with the permittee to winterize the windmill and stock water tank (T22N R17E Sec 8 SESE) so that winter use of the windmill and tank could occur.

The 80 acre holding facility (T22N R17E Sec 8 SESE) would be removed if a land exchange is not *initiated* within one year of a final decision regarding the Upper Missouri Watershed. If the holding facility is removed, the land within this enclosure would be managed with the Judith River Allotment. The existing fence along the road at the base of Reed Hill in the NE 1/4 of Section 15 would be removed and a new fence placed along the public land property line adjacent to the private land hay field in this location.

2.2.1.21 Iron City Island, Allotment-20066, Permit-256061 (Econom)

Upland health status and objectives:

- 20066-01-01 West Pasture. Meeting upland health standard. Maintain vegetation composition in late seral (ecological site index score of 50-74) Maintain upland range health.

- 20066-02-02 East Pasture. Meeting upland health standard. Maintain vegetation composition in late seral (ecological site index score of 50-74) Maintain upland range health.

Riparian health status and objectives:

- Polygons 1974-7 are currently meeting standards although livestock grazing may be preventing woody plant species succession. Polygons 1983-92 are not meeting standards due to livestock grazing. BLM would construct two riparian exclosures around polygons 1974-7 (T23N R17E Sec 25 SW) and 1983-92 (T23N R18E Sec 31 NW) (map

M5). The permittee would be responsible for the maintenance of these two exclosures. Maintain vegetative component score of the health rating for polygons 1974-7. Increase the vegetative component score of the health rating in polygons 2002-9 to 80 or above.

- Polygons 1983-92 are not meeting standards due to natural causes and livestock. The floodplain associated with these polygons is very narrow, subject to repeated ice and high water scour, and with little potential to produce significant riparian habitat.

Iron City Island is meeting the upland standard and not meeting the riparian standard in some areas. Grazing management would continue to be a two pasture deferred rotation grazing system.

Prescribed burns would be proposed to enhance bighorn sheep habitat. All land between 2,600 feet and 3,200 feet elevation on this allotment would be analyzed for potential burn treatment areas. Fire treatments proposed for Iron City Island allotment would be designed to be on steep enough terrain that rest from livestock grazing would not be necessary. Potential prescribed fire treatment areas are identified on map M8.

2.2.1.22 River Allotment-20046, Permit-256041 (Knox)

Upland health status and objectives:

- 20046-A-1 Meeting the upland health standard. Maintain vegetation composition in late seral (ecological site index score of 50-74). Maintain upland range health.
- 20046-B-1 Meeting the upland health standard. Maintain vegetation composition in late seral (ecological site index score of 50-74). Maintain upland range health.

Riparian health status and objectives:

- Polygons 2016-20 are not meeting standards. These polygons are on an island that is being scoured by ice and high flows. Livestock are not a significant factor.
- Polygons 2037-8 are meeting standards. Maintain current health scores.

Current management would continue. This allotment would continue to be operated as a three pasture deferred rotation with River pasture of Mattuschek allotment (formerly known as River C). The season of use would be from 5/10-9/15 with 150 cattle and 345 public land AUMs permitted. Permittee would be billed based on actual use in the fall. Cattle would be rotated between Road and Brow Ridge pastures in an alternating pattern and then be moved to River pasture and join up with 65 cattle that would come from one of the upland pastures of Mattuschek on or about 9/10.

An existing water saver in Road Pasture (T23N R18E Sec 2 NW) would be relined with fabric. BLM would supply materials and permittee would replace water saver fabric. Pasture numbers would be changed to names. River A would become Brow Ridge Pasture and River B would become Road Pasture (map M3).

Pasture rotation would be as follows:

- Year 1: Road Pasture 6/1-7/15 (6 wks), Brow Ridge 7/16-9/9 (7 wks), Mattuschek River pasture 9/10-10/30 (5 ½ wks)

- Year 2: Brow Ridge 6/1-7/21 (7 wks), Road pasture 7/22-9/9, (6 wks) Mattuschek River pasture 9/10-10/30 (5 ½ wks)

Prescribed burns would be proposed to enhance bighorn sheep habitat. All land between 2,600 feet and 3,200 feet elevation on this allotments will be analyzed for potential burn treatment areas. One fire treatment area has been identified on the River allotment to enhance bighorn forage conditions, the Leslie Point/Brow Ridge burn T22N R18E Sec 4, 5, & 6 and T23N R18E Sec 31 & 32. These proposed treatments would be designed to be on steep enough terrain that rest from livestock grazing would not be necessary. Potential prescribed fire treatment areas are identified on map M8.

2.2.1.23 Mattuschek and Mattuschek Home Pasture, Allotment-20045 and River C Pasture Allotment-20046 (Knox)

Upland health status and objectives:

- 20045-01-01 Wildhorse pasture. Meeting the upland health standard. Maintain vegetation in late seral (ecological site index score 50-74). Maintain upland range health.
- 20045-2-1 McDonald Ridge pasture. Not meeting the upland health standard. Current grazing use is a significant factor. Improve vegetative composition by increasing ecological site index score from mid seral score of 42 to late seral score of 50-74 within six years. Maintain upland range health.
- 20045-3-1 Middle pasture. Meeting the upland standard. Improve vegetative composition by increasing ecological site index score from mid seral score of 40 to late seral score of 50-74 within six years. Maintain upland range health.
- 20045-5-1 Mees Ridge pasture. Meeting the upland standard. Improve vegetative composition by increasing ecological site index score from mid seral score of 40 to late seral score of 50-74 within six years. Maintain upland range health.
- *20046-01-C River C (Mattuscheck River). Meeting the upland standard. Maintain vegetation in late seral or PNC (score between 50-100). Maintain upland range health.*

Riparian health status and objectives:

- Polygons 2044-5, 2048-52, 2055-6, 2060-2, 2064, 2067-8, 2080-3, 2091 and 2093-5 are currently meeting standards or are making significant progress toward PFC. Maintain current health scores and upward trend.

All pastures are meeting the upland health standard except for pasture 2. Better livestock distribution is needed in this pasture. Riparian areas are meeting or making progress towards standards.

Mattuschek allotment would continue to be operated as a deferred rotation grazing system *with 233 head of cattle from 6/1 to 10/31. Permitted use would remain at 691*

AUMs for Mattuschek Upland Pastures and 187 AUMs for Mattuschek River (River C). A water saver would be installed in pasture 2 to improve livestock distribution. Permittee would be billed based on actual use in the fall. To reduce confusion over pasture identification, pasture numbers would be changed to names as shown on map M3. Pasture C was originally part of River allotment but was attached to Mattuschek allotment in 1995 and will now be known as Mattuschek River pasture. Because of the complexity of management, the grazing system is described below. Specific pasture rotation sequence, livestock numbers, and dates are also shown in Appendix B.

To improve upland range conditions in McDonald Ridge pasture, a water saver would be built to better distribute cattle. This water saver would be constructed by BLM on the fence line between Middle and McDonald Ridge pastures. Stock water tanks would be placed in Middle and McDonald Ridge pastures (T23N R9E Sec 22 NESE) as shown in map M5.

The pasture formerly known as pasture 1 has been split by a gap fence and would now be recognized as two pastures: pasture along the River would be named Chimney pasture and upland pasture south of River would be named Wild Horse Pasture. The pasture rotations would follow two patterns defined by the turnout location. On one year 60 cattle would graze Chimney pasture for one month from 5/5-6/4. On 6/5 the 60 cattle would then join 140-173 pair that would be turned on Mattuschek on 6/5. These cattle would then be rotated through Mattuschek upland pastures in an alternating sequence each year. In the fall 65 yearlings from this herd would be split off and would graze Mattuschek River pasture (formerly River C) with the 150 cattle from River Allotment from 9/10-10/31.

Every other year 60 cattle would graze River pasture from 5/5-6/5. On 6/6 the 60 cattle would join 140-173 cattle that would be turned out on one of the five pastures on Mattuschek allotment on 6/6. These cattle would then be rotated through Mattuschek upland pastures in an alternating sequence each year. On 9/10, 65 yearlings from Mattuschek would be split off and would graze Mattuschek River (Formerly River C) with 120-150 cattle from River allotment from 9/10-10/15. Off date may be adjusted earlier if 150 cattle (instead of 120 cattle) are turned out into Mattuschek River with 65 yearlings on 9/10. The remaining cattle would be rotated through the upland pastures on Mattuschek and would be removed on 10/31.

This system would allow twice through grazing on Mattuschek River pasture. If riparian conditions deteriorate and the riparian standard is no longer met, the permittee *will be required to limit use to fall grazing only (9/13-10/31).*

Specific pasture rotation sequence, dates and numbers are shown in Appendix B.

Prescribed burns would be proposed to enhance bighorn sheep habitat. All land between 2,600 feet and 3,200 feet elevation on these allotments will be analyzed for potential burn treatment areas. Two fire treatment areas have been identified on the Mattuschek allotment to enhance bighorn and elk forage conditions, the Middle pasture burn in T23N R19E Sec 26 & 27 and the Wild Horse/Chimney burn in T23N R19E Sec 1, 2, 11, & 12. These proposed treatments along the river and in Wild Horse and Chimney pastures are designed to be on steep enough terrain that rest from livestock grazing would not be necessary. Fire treatment in the Middle pasture would necessitate two growing season of rest from livestock use. This could be accomplished by electric fencing, flexibility in the grazing rotation schedule, or a combination of both. BLM would provide the electric fence materials. The permittee would provide the labor, installation, and maintenance. Potential prescribed fire treatment areas are identified on map M8.

Current management on Mattuschek home pasture would continue.

2.2.2 Summary of Proposed Projects

Construction of these projects (maps M4 & M5) would be the responsibility of BLM. Unless otherwise noted, the permittee has maintenance responsibility.

- Construct two riparian exclosures on the Iron City Island allotment at T23N R17E Sec 25 & 26 and in T23N R18E Sec 31.
- Construct two riparian exclosures on the Pass Coulee allotment in T22N R14E Sec 9 NENW and SENE.
- Construct one riparian exclosure on the Sheepshed Coulee allotment in T23N R14E Sec 10 SESE.
- Chiseling of 50-100 acres of blue grama/dense clubmoss sites on the Tonne Pasture of White Rock Allotment (T25N R13E Sec 7 W2). BLM would loan the permittee the plow and provide the seed. The permittee would provide the tractor, fuel and labor.
- Winterize windmill and water tank on Dog Creek Allotment (T22N R17E Sec 8 SESE). BLM would supply the materials and installation. The permittee would be responsible for maintenance.
- Construct water saver on Mattuschek Allotment (T23N R19E Sec 22 NESE). BLM would provide the materials and installation of the apron, storage bag, fence, and hydrant. The permittee would supply and install the two stock tanks.
- Replace fabric on water saver on River Allotment (T23N R18E Sec 2 NW). BLM would provide the fabric and the permittee would provide the labor and installation.
- Furnish fence material to repair fence between Starve Out Flats and Deadman Coulee Allotments T23N R15E Sec 7 SW and Sec 18 W2. BLM would provide the fence posts (steel and wood) on public lands. The permittee would provide the labor and installation.
- Remove barb wire from deteriorated fence in Sheep Shed Coulee T23N R14E Sec 21 NE, and Sec 21 N2. BLM would provide the labor.
- Prescribed burns to enhance bighorn sheep habitat will be proposed on the Iron City Island, River, and Mattuschek allotments. All land between 2,600 feet and 3,200 feet elevation on these allotments will be analyzed for potential burn treatment areas. Three block fire treatment areas have been identified on the Mattuschek and River allotments to enhance bighorn and elk forage conditions: Middle pasture burn T23E R19E Sec 26 & 27; the Wild Horse/Chimney burn T23N R19E Sec 1, 2, 11 & 12; and, Leslie Point/Brow Ridge burn T22N R18E Sec 4, 5 & 6 and T23N R18E Sec 31

& 32. All prescribed burn treatments will be done in a mosaic pattern of which 20 to 40 percent of the area found appropriate for treatment will be burned. Potential prescribed fire treatment areas are identified on map M8.

Regardless of funding and range improvement projects, permittees must ensure that livestock are managed according to the guidelines (Appendix A) and actions are taken to insure allotments not meeting standards will begin to make significant progress towards meeting standards by the start of the 2002 grazing season. Maintenance for all existing and proposed projects would be the responsibility of the permittees. Construction of new projects would be the responsibility of the BLM.

2.2.3 Weeds

An aggressive, integrated weed control effort would be instituted with the implementation of Alternative 2. The majority of the Upper Missouri River Watershed would be encompassed in a Weed Management Area (WMA) as identified in the Upper Missouri River Breaks National Monument: Guidelines for Integrated Weed Management (UMRBNM:GIWM). Establishment of the WMA would facilitate cooperation among landowners and various state and federal agencies, and provide guidance for a more proactive weed control program. Noxious weeds would be categorized by priority based on presence, threat to resources, and potential for spread.

Category 1 noxious weeds are currently established and generally widespread throughout the watershed area. Management actions would include containment and suppression of existing infestations and prevention of new infestations.

- Russian Knapweed
- Leafy Spurge
- Canada Thistle

Category 2 noxious weeds have recently been introduced into the watershed or are rapidly spreading from their current infestation areas. Management actions would include containment of known infestations and eradication where possible.

- Spotted Knapweed
- Perennial Pepperweed
- Whitetop (Hoary Cress)
- Black Henbane
- Poison Hemlock
- Field Bindweed

Category 3 noxious weeds have not been detected in the watershed area or may be found only in small, scattered, localized infestations. Management includes early detection and immediate action to eradicate infestations.

- Salt Cedar
- Purple Loosestrife
- Dalmation Toadflax
- Houndstongue
- Baby's Breath

Noxious weed inventory and monitoring within the watershed would be a continual, dynamic workload accomplished by permanent and seasonal BLM employees, private landowners, and cooperating agency personnel. Inventory and monitoring data would be compiled by the LFO weed specialist and used to analyze the effectiveness of weed control efforts, project infestation trend patterns, and provide guidance for future weed control planning and implementation.

The chemical component of the integrated weed control program would be closely monitored by the LFO weed specialist. All herbicide applications would utilize BLM approved herbicides (BLM annually revises an approved herbicide formulation list) by experienced, licensed applicators; all applications would comply with label restrictions and guidelines. BLM would utilize permanent and seasonal employees to implement the site-specific herbicide prescriptions outlined in the UMRBNM:GIWM, and additional immediate application requirements which may be identified.

Biological control efforts would continue through release, dissemination, and monitoring of newly available and established biocontrol agents. BLM would continue a cooperative relationship with the Agricultural Research Service (ARS) by providing suitable experimental and research sites and assisting with associated biocontrol projects. Biological control would continue to be the primary tool for control of Category 1 weeds.

The vast majority of noxious weeds in this watershed area are contained within the Upper Missouri National Wild and Scenic River corridor (UMNWSR). Noxious weeds have been identified on uplands within the watershed; continued inventory and monitoring would provide upland infestation trend data. BLM would continue to develop cooperative agreements with livestock grazing permittees for noxious weed control on upland weed infestations. Under these agreements, the BLM would provide the proper type and amount of herbicide and the permittee would agree to apply the herbicide. Application would be made by the properly licensed permittee or contracted to a licensed applicator at the permittee's cost.

2.2.4 Sage Grouse

Sage grouse habitat would be enhanced with habitat treatments, grazing management alterations, and establishment of a residual vegetation standard. The objectives of the sage grouse nesting issue would be met with implementation of this alternative. In the Tonne Allotment a chisel plow project designed to promote sagebrush and other native species in conjunction with a two pasture deferred rotation grazing system would provide additional grouse nesting habitat. The seven inch stubble height standard for bluebunch wheatgrass and deferred rotational grazing systems being proposed for Deadman Coulee and Starve Out Flats Allotments would maintain and possibly enhance existing nesting habitat associated with the adjacent lek.

2.2.5 Monitoring

Permittees would be asked to conduct yearly monitoring on key upland and riparian sites (Appendix C). BLM would conduct monitoring on these same key sites on a schedule depending on the health rating of the site (Appendix D).

2.3 Alternative 3 - No Livestock Grazing

This alternative would remove livestock grazing from the public lands in the planning area. As current grazing permits expire, they would not be reissued.

2.3.1 Vegetation Management (Riparian Health, Upland Health)

Livestock grazing permits and leases would not be renewed and grazing would cease as permits/leases expire. Fences and other range improvements would be allowed to deteriorate.

2.3.2 Weeds

Same as Alternative 1.

2.3.3 Sage Grouse

Residual understory would be adequate for nesting sage grouse in the areas that are currently occupied by grouse. Understory vegetation in sagebrush communities that are adjacent to known grouse habitat would be enhanced and grouse use would potentially expand into these areas. The objectives of the sage grouse nesting issue would be met on the known habitat areas and potential new habitat would be provided with this alternative.

2.4 Management Common to All Alternatives

The following guidance will continue regardless which alternative is selected. All alternatives would be required to comply with all applicable BLM laws, rules, regulations, and policy. Standards for healthy rangelands will be achieved.

2.4.1 Fire Suppression

Fire suppression will be in accordance with the Fire Management Plan/Plan Amendment Environmental Assessment For Montana and Dakotas (expected to be signed by 2/2002). This plan also includes the Lewistown Field Office Fire Management Plan.

This watershed plan area is in the Missouri Breaks, fire polygon C1. The C designation identifies areas where fire is a desired ecosystem management tool. Fire could be a positive influence in much of this area and restoration of natural fire regimes will be encouraged where practical. However, each fire occurrence will have special consideration. Obvious concerns focus around structural developments, crop lands, livestock and livestock forage needs. Social and political considerations will dictate how each fire occurrence will be managed. Appropriate fire suppression based on current fire danger, resource availability and predicted weather will be use to ensure safety of fire suppression personal, reduce cost of fire suppression and provide an opportunity to return fire to its natural place in the ecology of the area.

2.4.2 Prairie Dogs

The JVP RMP directs that the BLM will maintain or manage prairie dog towns on BLM lands within this watershed area based on the values or problems encountered. In the West HiLine RMP area prairie dog towns smaller than 10 acres will not be actively managed. Current BLM policy states that loss of prairie dog habitat on private land may be compensated for by developing additional habitat on BLM land in the vicinity of the habitat loss.

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3.0 Affected Environment

Section Content

3.1 Coniferous Forest
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3.1 Coniferous Forest

Forested vegetation types include ponderosa pine and ponderosa pine/Douglas fir. Both vegetation types are common in the eastern portion of the watershed from Arrow Creek downstream. Ponderosa pine is common on south slopes and ridges and the ponderosa pine/Douglas fir type is common on steep north facing slopes. These vegetation types are very limited in the areas upstream from Arrow Creek. Livestock grazing would have no impacts on the coniferous forest.

3.2 Rangelands

Rangelands vegetation consists of sagebrush grasslands, grasslands, and lightly vegetated badlands. Mixed shrub communities are common in woody draws and flats throughout all of these vegetation types. Common grasses and grasslike species are bluebunch, green needle and western wheatgrass, prairie junegrass, blue grama, prairie sandreed, Sandberg bluegrass, and threadleaf sedge. Common shrubs include big sagebrush, silver sagebrush, saltbrush, rabbitbrush, and prickly pear cactus. Greasewood and , silver sagebrush are common in alluvial flats in or near riparian areas. Snowberry, chokecherry, hawthorne, rose, buffaloberry, and gooseberry are commonly found in woody draws. There are no known occurrences of threatened, endangered, or sensitive plants in the watershed.

3.3 Soils

The planning area is located in two geographic areas: the western sedimentary plains and the western glaciated plains. These areas, known as Major Land Resource Areas (MLRA) by the Natural Resources Conservation Service have similar soils, vegetation, climate, and geology. The western glaciated MLRA formed under recent glaciation and encompasses that part of the planning area from Arrow Creek upstream to Coal Banks. Glacial till underlies much of the this MLRA. The terrain in this area is level to rolling and forms breaks near the river or near tributaries to the river. Few conifers are present and badlands are not common except near major drainages such as Arrow Creek. Soils in this area are very deep, well drained and range from clayey to loamy texture.

The western sedimentary plains MLRA encompasses that part of the planning area south of the Missouri River from Arrow Creek downstream to the eastern edge of the watershed downstream from Stafford Ferry. Unlike the western glaciated MLRA, this area was not glaciated during the last glaciation period. Badland, thinbreaks, and clayey range sites are common in this area.

For a more detailed list of soils consult the Fergus or Chouteau County soil surveys.

3.4 Noxious Weeds

Noxious weed infestations on public land within the watershed area are primarily concentrated along the UMNWSR (see maps M6 & M7). Several species of noxious weeds have been identified within the planning area; the largest areas of infestation are occupied by:

- Leafy Spurge
- Russian Knapweed

The BLM has been actively involved in an integrated weed control program on the river since the early 1980s utilizing chemical and biological control. Leafy spurge and Russian knapweed infestations have grown dramatically during the past two decades, and chemical control efforts have been hindered by label restrictions, high water table restrictions, potential non-target desirable species damage, and seed dispersion by the river. Biological control of leafy spurge shows promise on large, dense stands which have proven very difficult to control using chemical alone. Numerous releases of leafy spurge and spotted knapweed biocontrol agents have been made along the river; established insect populations are monitored, collected, and dispersed by BLM personnel. Effective biological control agents are currently not available for Russian knapweed.

Noxious weed species of concern which have recently been identified along the upper Missouri River are:

- Salt Cedar
- Purple Loosestrife
- Dalmation Toadflax
- Perennial Pepperweed
- Whitetop (Hoary Cress)
- Baby's Breath
- Houndstongue

Infestations of these weeds are small and isolated; a concentrated effort will be made to eradicate all existing infestations and prevent their further introduction or spread.

The UMRBNM:GIWM, an intensive, site-specific weed management plan which encompasses the Upper Missouri River Watershed area, has been developed by the monument staff weed specialist. This plan, which is available for review at the Lewistown Field Office, will be made a part of this watershed plan, and will provide guidance for continued weed management efforts within the watershed area.

3.5 Upland Range Health

Allotments were assessed for upland range health in 2000. Rangeland health is defined as the degree to which the integrity of the soil, vegetation, water and air as well as the ecological process of the rangeland system are balanced and maintained.

Upland health was determined using existing permanent study plots. These study plots were evaluated for ecological site index, upland range health indicators, and soil surface factors. Uplands on 22 of these allotments are meeting standards. Four allotments are not meeting standards. Livestock is a significant factor on two of the four allotments that are not meeting upland standards. Prairie dogs or the influx of annual grasses and weeds are a significant factor on two allotments not meeting upland standards. Appendix D displays a list of study results by allotment.

Hail and drought in 2000 has also influenced vegetation in some areas. To separate the impacts of drought and hail from livestock use, the evaluation team looked at fence line contrasts and similar sites under different management to discern the amount of impact caused by livestock management verses impacts of drought or hail. Precipitation records from a nearby weather station were also reviewed. A summary of these records is shown in Appendix G. The following is a list of upland health ratings by acres and percent of total acres for each category.

3.5.1 Status of Upland Range Health

32,205 acres (75% of the watershed) are meeting the upland health standard (Appendix I).

10,796 acres (25% of the watershed) are not meeting the upland health standard (Appendix I).

Seral stages and ecological site index scores were determined on upland sites using NRCS ecological site index technical guides for each ecological site. This method assesses the seral stage of a ecological site and provides a score. The higher the score, the higher the plant successional stage (seral stage). Changes in plant communities known as plant succession are characterized by different types of plant communities replacing other types of plant communities. A plant community reaches climax or Potential Natural Community (PNC) when it reaches a point that the community maintains itself and is relatively stable. Different stages of succession are called seral stages. The amount and type of disturbance, the site, and the amount of rest following disturbance often dictate the seral stage of the plant community. In prairie grassland ecosystems, areas that have prolonged disturbance with little rest have a high abundance of annual forbs and weeds, some annual grasses, and shallow rooted perennial grasses of short stature. These conditions would be termed low seral conditions. With the NRCS ecological site index system, the higher the score, the higher the seral stage.

Areas without recent disturbance or light disturbance followed by periods of rest usually reflect late seral or potential natural community. This stage is characterized by tall, deep rooted grasses, fewer forbs and weeds, and in some cases a shrub overstory. Prairie ecosystems evolved with periodic disturbance in the form of fire, grazing, hail, and drought followed by periods of favorable growing conditions. In some cases a lack of some type of disturbance over a period of decades can cause succession to move backwards towards lower or early seral conditions. Conversely prolonged disturbance without adequate rest for plant recovery will also lead to early seral conditions. The means to achieving the upland standard for range health center around managing grazing to allow some disturbance followed by periods of rest during the growing season.

On a site-specific scale, late seral or PNC conditions are associated with healthy rangelands. Early seral conditions are often associated with unhealthy rangelands. However on a larger scale it is important to have a mix of seral stages present to provide diverse habitat. The goal of achieving the upland range health standard strives to maintain a high percentage of the plant community in late seral or PNC conditions, however it is understood that a small percentage of the acreage may actually be in early seral conditions such as livestock watering points, prairie dog towns, etc.

In the planning area, 14% of upland vegetation was determined to be at potential natural community (climax), 38 %

in late seral stage, 48% in mid seral stage and less than 1% in low seral stage.

Erosion condition class determinations (soil surface factors) were also completed to assess erosion conditions on rangelands. The method uses seven factors to assess the condition of the soil surface. Factors such as the amount of bare ground, amount of rilling, gullying or other forms of erosion are assessed and scored. These criteria are indicative of the amount of erosion that is occurring. The majority of the acreage in the planning area (95%) rated in the stable or slight erosion class category.

The BLM also uses rangeland health indicators along with other methods to assess and communicate rangeland health. These indicators consider the structure and function of the ecosystem rather just one component such as plant species composition or soil surface factors. These indicators provide no scores and taken alone are not a sole indication of rangeland health but when viewed with other information provide clues to the sites health. These indicators are important means of communicating problems or successes to permittees and the public.

The indicators used are related to the amount or type of:

- plant community diversity
- plant community structure
- photosynthesis activity
- plant status
- presence of exotic plants (weeds)
- seed production
- nutrient cycling
- flow patterns
- soil movement by wind or water
- soil crusting and surface sealing
- soil compaction
- rills
- gullies
- amount of ground cover
- cover distribution

A rating is then assigned based on the indicators and a review of the study results of the other methods. Under this rating, allotments are placed in one of three categories: properly functioning condition (PFC), functioning at risk (FAR); and non-functioning (NF). Allotments that are in PFC meet standards and allotments that are FAR and NF do not meet the upland standard.

3.6 Livestock Grazing Management

Twenty six grazing allotments are permitted to 20 permittees. The permits are for cattle, except for a small portion of one permit which includes horses. Total permitted use in the planning area is 5958 AUMs. Allotment Management Plans (AMP) have been implemented on seven allotments. Table 1 displays the allotments, type of use, season of use, AUMs and other information. Appendix H displays the Allotment Management Plans and management plan status.

3.7 Recreation

The Upper Missouri River Watershed is located in both the West HiLine Management Area (MT-ES-88-004-4410 and the Judith-Valley-Phillips Management Area (MT-ES-93-001-4410). The lands within the Upper Missouri National Wild and Scenic River corridor are managed under the Upper Missouri National Wild and Scenic River Management Plan (1976, amended 1994) and the West HiLine Management Plan. This planning effort includes UMNWSR lands between river mile 46 and river mile 110, for a total of 66 river miles. The remaining lands in the watershed, to the south and outside of the

UMNWSR's southern boundary are managed under the Judith-Valley-Phillips Resource Management Plan (JVP-RMP 9/94) and are within the Judith Recreation Management Area (RMA MT060-07).

In a previous watershed analysis for the Woodhawk area, completed in September of 1997, river recreation visitation averaged approximately 2,230 visitors annually. Actual use is, however, much higher, according to the analysis, because these figures represented only about 60% of those using the river during the primary use season (the period between the weekend before Memorial Day through the weekend after Labor Day), and approximately 25% of those using the river during the rest of the year. Additionally, hunting use adjacent to the river increases yearly as land access has become more of an issue. Hunters only register infrequently and use numbers are much higher than recorded. Fluctuations in water levels affect floater numbers, i.e. high flows mean more floaters and low flows mean fewer floaters. The summer of 2001 may be an exception in that use levels up to Labor Day exceeded 5000 visitors (summer 2001 river flows reached an all time recorded low due to drought conditions). The primary reason for this anomaly can be attributed to the upcoming Lewis and Clark Bicentennial Celebration, scheduled for 2005. Much of the use was found to be local and regional-people may be wanting to float the river before the expected crowds of the celebration arrive.

Moreover, this extensive recreation management area (RMA) allows for dispersed and unstructured recreational activities on the public land in this watershed. Participation in specific recreational activities on the BLM lands in this watershed consist of hunting, wildlife photography, wildlife viewing, sightseeing, and driving for pleasure with the majority of use occurring during the summer or during the fall hunting season.

Currently, the BLM has authorized four Special Recreation Permits (SRPs) for upland commercial outfitting operations on the public lands in this watershed. These SRPs are issued to outfitters with a valid State of Montana outfitter license and are authorized at the discretion of the Lewistown Field Manager. Additionally, there is one outfitter operating a motorized vehicle tour business within the UMNWSR on the south side of the river. Outfitters pay an annual fee of 3% of their adjusted gross revenue (minimum $80) for the privilege of utilizing the public land in their commercial hunting business.

There is one Wilderness Study Area (WSA) within the watershed planning area called Dog Creek South (MT-024-633), comprising 5150 acres. This WSA has been determined to be unsuitable for inclusion in the National Wilderness Preservation System.

There are two river campsites on the south side of the river within the watershed analysis area; one developed and one undeveloped. Hole-in-the-Wall campground only has access through private land. It is a developed site with vault toilets and wind shelters. A trail of approximately one mile has been created by river floaters and the local general public to the unique sandstone rock formation. Beyond Stafford Ferry, McGarry Bar Campground is the only other designated campsite accessible along the south side of the river within the watershed planning area. It is one of the Lewis and Clark, 1805 camp locations, and is a primitive and undeveloped site.

There are an unknown number of miles of existing roads and vehicle ways (two-tracks) in the watershed planning area. The limited public access to the BLM lands attributes to the low number of visits associated with sightseeing and driving for pleasure activities.

3.8 Visual Resource Management (VRM)

Public land within the planning area has been assigned a Visual Resource Management (VRM) class based on a process that considers scenic quality sensitivity to changes in the landscape and distance zone. This is accomplished by using the four primary elements found in the environment: form, line, color, and texture. There are four VRM classes numbered I to IV (Visual Resource Management Program, Bureau of Land Management, 1980). The lower the class number the more sensitive and scenic the area. Each class has a management objective which prescribes the level of acceptable change in the landscape. This watershed primarily has the first two of the four classes within it, because of a major portion of the public lands in the planning area being rugged river breaks or private lands in the river bottom or uplands (JVP-RMP, 1992).

Public land within the river corridor classified as wild, (river mile sections 47 to 84.5; 92.5 to 95.5; and 104.5 to 110) including lands adjacent to the corridor (below the Missouri River canyon rim) and those portions of the Dog Creek WSA seen from the river, have a Class I VRM classification. This class provides for natural ecological change and allows limited management activity. The level of change to the characteristic landscape should be very low and must not attract the river visitor's visual attention.

Public land along and above the section of the river corridor classified as recreational (river mile 47 to 51.5) has a Class II VRM classification. Public land in the section of the river corridor classified as scenic (river mile 99.5 to 104.5) and lands adjacent to the corridor (below the rim) have a Class II VRM classification. The level of change to the characteristic landscape in this classification should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The level of change to the characteristic landscape would be evident, but should be moderated by using the basic elements. Any management activity should remain subordinate to the existing landscape.

3.9 Off-Highway Vehicles (OHV)

Road inventory and condition analysis will be deferred to the UMRBNM RMP.

On lands within the Monument, the BLM State Director's Interim Management Guidance for the National Monument would apply.

But on those lands outside of the current UMNWSR boundary BLM has designations of *"Limited Year-Round," which are in accordance with the new OHV EIS, not yet in effect.*

In limited areas there are restrictions in place as to the type of vehicle, where they may travel, or when they can travel (refer to Off Road Vehicle Travel Plan in the JVP-RMP, Map 4 Side A *or the BLM Tri-state OHV Plan/EIS*).

In restricted areas (WSAs) there is no motor vehicle use allowed year-round unless on a boundary or cherry stem road (way).

On other routes, seasonal restrictions *may* limit motorized travel to designated routes, with no cross country travel allowed from September 1 to December 1 each year.

Those public lands within the UMNWSR, and that portion of the WSA lying within the UMNWSR corridor presently have "Restricted," "Limited" or "Closed Seasonally" designations in effect.

3.10 Wildlife Resources

The variety of vegetation along the river and its associated areas provides habitat for a diverse wildlife population. In a relatively small area the habitat may include everything from deciduous tree stands with other associated riparian species, mixed coniferous forest, sagebrush steppe, cliffs, and agricultural land along the rim of the canyon. Over 60 mammals, 233 species of birds and 20 species of amphibians and reptiles inhabit these areas. The river itself is home to 48 species of fish ranging from the ½ ounce minnow to the 140 pound paddlefish.

3.10.1 Mammals

Probably the most significant of the mammals are bighorn sheep, elk, mule deer, whitetail deer, pronghorn antelope, the special status black tailed prairie dog. Several water obligate species are also very common on or near the river, beaver have become very common on portions of the river particularly since the value of furs dropped over the last couple of decades. The beaver population has become somewhat controversial with the recent efforts to get cottonwood stands reestablished. The canyon areas also provide habitat for good numbers of predator species. Mountain lions *and coyotes* appear to be doing very well in the breaks. *Smaller predators such as foxes, skunks, and racoons are relatively abundant in some areas of the watershed.* The hoary bat, big brown bat, little brown bat, long eared bat, long-legged bat, and Townsend's big eared bat may occur in the watershed.

The black tailed prairie dog was ruled to be warranted for listing but precluded by the USFWS in February of 2000. The known prairie dog towns in the Upper Missouri watershed are concentrated from Arrow Creek downstream to Dog Creek (map M9). A majority of these towns are located in grazing allotments that are permitted to the PN Ranch. Figures from ground and aerial mapping during the spring of 2001 indicate that prairie dog towns in this watershed include: 401 acres of private land, 624 acres of state land, and 120 acres of public land. Most of the dog towns on public land have reached total possible expansion. Due to the steep topography and the small size of the public land parcels in this area, any further expansion of these towns is more than likely going to occur on state or private land. Because of the limitations for prairie dog expansion on public land the opportunity for black footed ferret occupation is minimal. This isolated complex does provide plenty of opportunity for species such as burrowing owls, ferruginous hawks, and mountain plovers that are known to be associated with dog towns. Prairie dog towns provide an island of unique habitat that attract a large number of predator species, particularly coyotes and badgers.

Rocky Mountain bighorn sheep were released at the Mattuschek allotment in Upper Missouri River watershed in 1980. This herd continues to survive and prosper. Bighorn sheep numbers appear to be appropriate throughout their range and have been expanding into available adjacent habitat. Recently, expansion has slowed or maybe even stopped. Currently, their habitat in this watershed is considered to include the area from Judith River downstream to the eastern boundary of the watershed (map M10). Their diet consists of mostly grasses and forbs and is supplemented by browse species such as sagebrush, saltbush species, greasewood, rabbitbrush, and winterfat. Montana Fish, Wildlife & Parks (MFW&P) management objectives are to provide a quality hunting experience and to stabilize the population size. BLM management objectives are to provide quality habitat on BLM land and to maintain and expand bighorn sheep as appropriate. Habitat quality or quantity has not been a concern with this bighorn sheep herd until recently. The minimal herd expansion that this herd has displayed recently indicates that some limiting factor has been reached. Efforts will be ongoing to continue monitoring the sheep herd and ensure that quality habitat remains available for their use. Bighorns have a tendency to be very cyclic and prone to disease. Appropriate habitat and herd size management is crucial because of the propensity of bighorns to contract various diseases. Bighorn attraction to recently burned areas has been well documented on other ranges. Burned areas from wildfires on both sides of the Missouri River are receiving concentrated use from sheep, particularly in the winter and spring months.

Elk numbers have also increased since an introduction into the Missouri Breaks in the 1950s. They have expanded from the breaks habitat into the adjacent agricultural lands and riparian habitats. MFW&P objectives include maintaining the population at current levels and preventing or reducing damage to crops. BLM's objectives are to provide habitat for the elk population in the breaks. The portion of hunt district 417 that is included in this watershed has good elk habitat but legal public access to the elk habitat is extremely limited. Some elk foraging areas have been overgrown by ponderosa pine. The elk habitat in this watershed occurs from Stafford Ferry road downstream to the eastern boundary of the watershed and a small area in the Judith River drainage (map M11).

The mule deer population in the area are currently at good levels but were at a very low level in 1996 and have been continually improving over the past five years. Several factors contributed to this most recent population fluctuation that mule deer experienced. The mule deer population drop in the mid 1990's was primarily caused by poor production of forbs and browse on consecutive years (1994 and 1995) as a result of low rain fall during the growing season. Cold temperatures and deep snow in 1996 and corresponding high predator numbers also affected the population drop. There are some areas in the watershed where the preferred browse species are either decedent or being over used by wildlife or livestock. Some unused and deteriorated barbed wire fences were identified in this watershed and should be removed to promote mule deer well being. The entire Upper Missouri watershed (map M1) is considered to be valuable mule deer habitat.

3.10.2 Birds

Of the 233 species of birds that inhabit the watershed, the bald eagle is on the threatened list, *the mountain plover is proposed for the threatened list and the peregrine falcon has been delisted and is considered a special status species.* Birds that occur on BLM's sensitive species list include Bairds sparrow, burrowing owl, ferruginous hawk, Swainson's hawk, and sage grouse. Of these species of special interest, the bald eagle, peregrine falcon, *mountain plovers*, and sage grouse are the only species likely to be significantly affected by the actions generated from this watershed plan.

Tree nesting raptors such as Swainson's hawk, red-tailed hawks, and great-horned owl are known to be present in the cottonwood stands and isolated conifers along the river. There are also ground nesting raptors such as ferruginous hawks, burrowing owls and northern harriers present in the watershed. Burrowing owls and ferruginous hawks have been documented taken advantage of the prey and nesting opportunities provided at the prairie dog towns in the central portion of the watershed. The cliff faces provide perching and nesting habitat for many raptors and other birds. The more significant and abundant of the cliff nesters are the golden eagle, prairie falcon, and sparrow hawk. Canada geese also nest in some of the cliffs adjacent to water.

There are four species of upland game birds present in the watershed; Hungarian partridge, sharp-tailed grouse, sage grouse, and ring-necked pheasant. The introduced species, pheasant and partridge, are commonly associated with crop land on the upper reaches of the corridor or along the rim. Pheasants are present on the islands and other areas of thick woody riparian vegetation all along the river. The native species, sharp-tails and sage grouse, are mostly located in heads of brushy coulees and in the sagebrush grasslands. Sharp-tails appear to be doing well, but sage grouse numbers are known to be dropping. A few historic sharp-tail leks have been identified in the watershed but only one sage grouse lek has been documented.

Two of the more obvious bird species along the river are the white pelican and the great blue heron. The pelican is not known to nest on the river but there are many non-breeders, juveniles, and some adult breeders that fly in from adjacent lakes and reservoirs to fish on the river. The great-blue heron is common on the river in the summer months and there is at least one active rookery.

The cottonwood, box elder, and ash habitats along the river provides nesting and brooding habitat for dozens of neo-tropical migrant species during the summer. Mourning doves are very abundant in the tree stands along the river. The deciduous trees along the rivers edge are uncommon in this area of otherwise prairie and coniferous forested coulees making them very valuable for most bird species on the river.

Bald eagles have historically nested on the Missouri River. Currently there are at least two long time active nests on the river. The Little Sandy territory is approximately a mile upstream from the boundary of this watershed and the other documented nest is further upstream. There is suitable habitat to support additional bald eagle nests on the river. One limiting factor may be the distribution of stands of large cottonwoods along the river. Mature cottonwoods are used by the eagles for roosting, fishing, and nesting structure. Bald eagles like to forage on fish. The variety and number of fish in the river provide an abundant food source.

The home range of the mountain plover includes the shortgrass prairie from northern Montana to southern New Mexico. Breeding pairs have been documented on prairie dog towns 30 to 40 miles to the east of this watershed. No mountain plovers have been documented in this watershed to date but potential habitat does exist for the species. The area south of the Missouri River in this watershed has not been adequately surveyed for plovers. The mountain plover may be considered a *disturbed-prairie species that prefers arid flats with very short grass and high proportion of bare ground. In this watershed there is potential habitat for the species on the prairie dog towns and on the few acres of clubmoss dominated sites.*

The peregrine falcon is one of the very few species to be de-listed from the T&E list. The Missouri River corridor has excellent potential to support breeding pairs of peregrine falcons. Several adult peregrines have been seen near the river in the last few years but no breeding pairs have been observed. Approximately 24 young peregrines have been released at a hack site in this watershed near Stafford Ferry since 1993. Peregrine falcons prey on passerine birds and ducks. Riparian enhancement along the Missouri River would promote an increase in duck production and provide an improved forage potential for peregrines. Any cliff nesting site along the river corridor has potential to be a peregrine aerie.

Sage grouse are considered to be sensitive and are decreasing in numbers throughout their range. *Faltering sage grouse populations can be contributed to a number of different factors. Habitat fragmentation and condition are the primary factors that a land management agency such as the BLM can affect. Other factors that are commonly mentioned such as; the effects of predation, hunting, drought, and hail storms are beyond the scope of this watershed assessment and not something that BLM land management would impact.* The USFWS has been expecting a petition to list the species for some time and a working group that contains specialists from several state and federal agencies are currently preparing a sage grouse conservation plan for Montana. During the spring of 2001 an aerial survey was conducted of the watershed area to identify locations of sage grouse strutting grounds (leks). One lek was identified in the Deadman Coulee area and sage grouse sightings have been documented during the aerial survey and later in the spring on the Tonne allotment. There has not been a lek identified in the Tonne allotment but there is good evidence that one exists. The portion of the watershed north and west of Arrow Creek could all be potential sage grouse habitat. No leks or evidence of sage grouse were identified from Arrow Creek downstream to the east end of the watershed. The eastern portion of the watershed is either steep breaks, conifer habitat, or otherwise very limited in sagebrush occurrence.

3.10.3 Fish

Forty-eight species of fish reside in Missouri River and its tributaries within the watershed. The pallid sturgeon is endangered and five other species are considered to be special status; blue sucker, paddlefish, sauger, sicklefin chub, and sturgeon chub. The most popular fish in the watershed from the stand point of the recreational fishermen are the sauger and paddlefish. Walleye, channel catfish, and shovelnose sturgeon are also highly desired by fishermen. Of the 48 different species of fish 32 are native to the river and 16 have been introduced to the system over the years. Fisheries habitat on the Missouri River within the watershed has changed dramatically over the past 50 to 100 years with the advent of dams and subsequent flood control and the gradual reduction of cottonwoods and other deciduous trees. This can be evidenced by the high number of T&E and special status fish species in this relatively short section of river.

Pallid sturgeon were listed as federally endangered in 1990. This species has also been listed as a Montana Species of Special Concern (MSSC) since the list was first started in 1979. It is believed that construction and operation of Canyon Ferry, Tiber, and Fort Peck dams/reservoirs have altered habitat and fragmented pallid sturgeon populations to the point that they are now threatened with extinction. Pallid sturgeon recovery is in its initial stages and consists of protection of the gene pool by stocking hatchery-reared fish and re-creating the important spring pulse of the Marias River, an important tributary. Rough estimates indicate that there are approximately 50 adults in the section of the river from Fort Peck Reservoir to Marias River. Many of these fish still reach sexual maturity but no evidence of successful reproduction has been documented since monitoring of the pallid population first began in 1990. Three reaches have been identified as important habitat for pallid sturgeon in the Missouri River above Fort Peck. One of these reaches includes the western most part of the watershed from Coal Banks down to Alkali Creek.

The sauger is a game fish that was recently added to the MSSC list in June, 2000 because of the recent widespread declines in populations throughout Montana. This designation recognizes that sauger are more vulnerable to relatively minor disturbances to its habitat and deserves careful monitoring of its status. A severe decline in sauger numbers was first noticed beginning in 1989. Populations have remained very low, especially in the reach between Great Falls and the Judith River confluence. Sauger fingerlings depend on normal summer flows for maintaining adequate nursery habitat in side channels and backwater areas. A combination of drought years, flow control from the upstream dams, and lack of woody cover in the river have made for poor conditions for young sauger survival.

Two isolated tributaries of the Missouri River were found to be occupied by minnows during the field season of 2001. Minnows from Dog Creek, an intermittent stream on the PN allotment, were collected in the spring and sent in for positive identification. Minnows were also located in Flat Creek, a perennial spring fed stream on the Pass Coulee allotment. Samples will be taken to identify the fish species in Flat Creek.

3.10.4 Amphibians and Reptiles

The tiger salamander is the only salamander occurring in the watershed. The woodhouse toad, western chorus frog, and possibly the northern leopard frog all occur in the area. There is concern for the populations of northern leopard frog which appear to be in a sharp decline. Spiny softshell and snapping turtles occur in the watershed. There is a recent interest in the spiny softshell turtles on the Upper Missouri River because this population is a disjunct population separate from other softshells on the Yellowstone and Lower Missouri Rivers. There is concern that concentration of livestock in softshell turtle nesting areas may impact nesting success. Snakes found in the area include the western rattlesnake, racer, bull snake, and two species of garter snake. *The short-horned lizard is also know to be present in the watershed.*

3.11 Wildland and Prescribed Fire

The Missouri Breaks Fire Management Polygon wild land fire history, from 1980 to 2000, indicates Federal agencies have responded to 302 fires which burned an estimated 24,000 acres. The average number of fires per year was 15, and the average fire size was 5 acres. The Upper Missouri Watershed encompasses approximately 50% of the Breaks Polygon.

3.12 Cultural Resources

Cultural resources are broadly defined by BLM as any cultural property or traditional lifeway value. Cultural properties are definite locations of past human activity, occupation or use. Traditional lifeway values are the traditional systems of religious belief, cultural practice or social interaction that are not closely identified with definite locations (JVP, pg 131).

The prehistoric period began around 14,000 years ago and ended around 1855 with the signing of the Blackfeet-Stevens Treaty. The inhabitants of this area were mostly hunters and gatherers utilizing the natural resources (plants and animals) for subsistence activities (JVP, pg 131).

Later in the historic period, homesteading brought settlers into the planning area by the thousands. The region was quickly settled by Germans and Scandinavians from the Midwest, as well as by eastern European immigrants like Bohemians and Yugoslavs (JVP, pg 132).

Some cultural sites are significant because of the information they can reveal about the past through systematic study while others convey a sense of history for the time period that they represent.

Another type of cultural property which may, or may not be eligible to the National Register of Historic Places involves places which are important because of current use or values associated with the location.

The Upper Missouri Watershed contains all of the cultural property types described above. Preserving the values of these cultural properties is an important consideration for management actions in this area. In some cases, preservation of the setting is necessary to preserve the integrity of the cultural property. This consideration is important where management actions have the potential to affect the setting of a cultural property when the setting contributes to its overall integrity.

The Watershed includes cultural sites associated with both the prehistoric and historic periods. A total of eighteen (18) historic period sites and sixty-two (62) prehistoric sites are recorded on BLM surface within the study area.

Among the historic sites in the study area is the homestead of Frank Hagadone (24FR328). This homestead is considered eligible to the National Register as it is a well preserved representative of the homestead era. This homestead is adjacent to the Missouri River and is a popular stop with recreationists.

In addition to individual cultural sites, the study area includes portions of the Judith Landing and Dauphin Rapids Historic Districts (map M3) as well as the proposed White Rocks Historic District.

The proposed White Rocks Historic District included both natural and cultural features on both sides of the river. The natural features are primarily landmarks from the steamboat era. These include Castle Rock, La Barge Rock, Grand Natural Wall, Citadel Rock, Hole-in-the-Wall and others. This proposed district also included archaeological sites and later homestead period remains. A National Register nomination was drafted but never competed for the proposed White Rocks District.

The Judith Landing Historic District comprises a 15 square mile area on both sides of the river centered around the mouth of the Judith River. The district includes both specific sites and general locations of historic events. This district was listed on the National Register in 1975.

The Dauphin Rapids District includes the rapids as well as a Lewis and Clark Campsite and the site of the original McClelland Ferry. This district was determined eligible to the National Register in 1982.

3.13 Surface Water

The area covered by this plan is called the "Upper Missouri Watershed." This area is not a true watershed but rather a collection of grazing allotments that all drain to the Missouri River. The Missouri River is the major river in the planning area. Perennial tributaries include the Judith River and Arrow Creek. Water in these rivers is generally available to wildlife and livestock year long. Intermittent tributaries are Flat Creek, Sheepshed Coulee, and Dog Creek. All other streams and water courses in the watershed are ephemeral, flowing only in response to snow melt or intense summer storms. None of the streams in the watershed are potable without treatment but all are suitable for livestock and wildlife.

The Montana Department of Environmental Quality (MT DEQ, 1996) lists the Judith and Missouri Rivers as water quality impaired streams. Due to this impairment, the Missouri River is only partially supporting aquatic life, warm water fish and swimming. Probable causes are elevated metals, habitat alterations, and riparian degradation. Probable sources of impairment are agricultural and grazing practices and unknown sources.

The Judith River is listed as impaired due to habitat alterations, bank erosion, and riparian degradation. Probable sources of impairment are agricultural and grazing practices, removal of riparian vegetation, and habitat modification. The Judith is only partially supporting aquatic life, and cold and warm water fish. The lower reaches of the Judith River that are in the planning area are an exception. Hansen (1989) described the riparian area on the PN Ranch along the Judith River as a truly unique site. It is one of the best cottonwood gallery forest and one of the best sites for cottonwood regeneration in Montana. Therefore, any degradation of the Judith River is most likely occurring upstream of the planning area.

There are 16 developed livestock waters (springs, watersavers, and reservoirs) on public lands in the watershed (maps M4 & M5).

3.14 Ground Water

Shallow ground water, less than 500 feet below the surface, is scarce in the watershed due to large-scale gravity slides away from the Bearspaw Mountains and by the extensive thrust faults and rifting, tilting, and collapse of the rocks that occurred in the slide sheet. Where shallow ground water does occur, it is generally potable without treatment although it may be high in iron or sodium which may cause a "bad" taste. Yields are normally less than 10 gpm. Developing and transporting water from shallow wells is generally not an economically feasible option to solve the shortage of reliable water sources on public lands for livestock/wildlife in the watershed.

Deeper ground water, greater than 500 feet below the surface, is present in the watershed west of the Judith River. The quality is often too poor for domestic or livestock use. The depth to the water precludes it from being an economically feasible source of livestock/wildlife water.

One well exists for livestock water on public land in this watershed area on the PN Ranch.

3.15 Riparian

Riparian areas are defined as the "green zones" associated with lakes, reservoirs, estuaries, potholes, springs, bogs, wet meadows, and streams (ephemeral, intermittent, or perennial). The riparian zone occurs between the upland zone and the aquatic zone. Riparian areas are characterized by water tables at or near the soil surface, and by vegetation requiring high water tables. *Generally, riparian areas are among the most resilient ecosystems. Depending on condition and potential, they usually respond more quickly than drier upland ranges to changes in management (USDI, 1997).*

Livestock grazing management in riparian areas is one of the most pervasive issues facing rangeland managers. In this watershed a typical pasture has as its water source one of the major streams listed in "Surface Water" section above. The riparian area associated with these streams occupies less than 10% of the total area in the pasture but because of a lack of other water sources, provides a disproportionate amount of the forage consumed (Marlow 1985).

Riparian area management is also one of the most complex issues for rangeland managers because:

- *Most riparian acreage is privately controlled or intermingled with other ownerships*
- *Riparian areas are often the primary, and sometimes the only, watering place for livestock*
- *Public use of riparian areas is increasing*
- *Other resource values are concentrated in and dependent on those areas*
- *Grazing affects a number of resources and uses, both on-site and off-site*
- *The value of properly functioning riparian systems is not widely understood*
- *Traditional management practices are often inadequate and difficult to change*

Because of these complexities, the involvement and cooperation of private landowners, ranchers, recreationists, other watershed users, and many different disciplines is critical to the success of riparian area management programs.

Most of the riparian areas in the watershed were assessed for health. The health score was then used to determine if changes were needed in the existing grazing systems.

Riparian health ratings consist of three categories; proper functioning (PFC), functioning at risk (FAR), and non-functioning (NF). PFC is described as functioning properly when:

- Adequate vegetation, landform, or woody debris is present to dissipate stream energy
- Vegetation captures sediment thereby improving water quality
- Vegetation captures sediment aiding in floodplain development
- Improves flood-water retention and ground water recharge
- Develops root masses that stabilize streambanks against cutting actions
- Develops diverse ponding and channel characteristics to provide fish habitat, waterfowl breeding, and other uses
- Supports greater biodiversity

FAR are areas that are functional but an existing soil, water, or vegetation attribute makes them susceptible to degradation. NF are riparian areas that clearly are not providing vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, etc., as listed above. The absence of certain physical attributes such as a floodplain where one should be are indicators of non-functioning conditions.

The health of streams tributary to the Missouri river were assessed using the Montana Riparian and Wetland Association's (MRWA) Lotic Health Assessment (stand alone, Apr 28, 1998). A total of six miles was assessed, 4.4 miles scored FAR and 1.6 miles NF. Riparian areas on the Missouri River were assessed using the MRWA Large River Health Form (July 27, 2000). This form is composed of two components, vegetation and soils/hydrology. The total score is discounted in the soils/hydrology component due to flow regulation by the upstream dams, making it very difficult to achieve PFC. Therefore, in this document, only the vegetative score was used in determining the health of the riparian sites on the Missouri River. A total of 16.3 miles was assessed, 4.6 miles scored PFC, 10.3 miles FAR, and 1.4 miles NF.

The riparian areas bordering the Missouri River exhibit a severe lack of cottonwood and other woody plant regeneration. Private and state lands bordering the river have 97 separate sites of mature cottonwood trees and only 28 separate sites of replacement trees (sapling and pole stage trees). Public lands have 27 separate sites of mature cottonwood trees but no replacement tree sites. Various researchers have indicated a need of approximately 125% of replacement trees compared to the current stands of mature trees in order to maintain the numbers of mature trees (Hansen 1989).

Various factors affect the regeneration of riparian vegetation along the Missouri River. Flow regulation by dams, livestock, wildlife, scour by ice and high water, beaver, drought, disease, insects, and extensive use by campers all can negatively impact or even prevent regeneration (Scott and others 1997, Auble and Scott 1998).

Numerous studies, on the Missouri and other large rivers in the northern great plains, have indicated that the two major causes for lack of riparian regeneration, especially woody species, are flow regulation and livestock grazing (Hansen 1989, Platts 1979, Platts 1981, Platts and others 1987, Kauffman and Krueger 1984, Windell and others 1986, Davis 1982, Knoph and Cannon 1982, Marcuson 1977). BLM has been monitoring its riparian areas on the Missouri River yearly since 1990. In addition, BLM and the United States Geological Survey (USGS) have been jointly conducting a cottonwood regeneration study on the Missouri River since 1996. It is evident from these studies that a lack of spring floods and continuous hot season livestock grazing (July through September) are detrimental to cottonwood regeneration and riparian areas in general (Scott pers. comm.). The lower peak flows in spring and summer are reducing the extent of seed bed preparation for riparian establishment. Riparian vegetation establishes where the channel is actively moving. This channel movement is generally caused by floods. Higher base flows in the winter may be subjecting those areas that do establish to increased ice scour (Scott pers. comm.).

BLM maintains riparian exclosures at Munro Island, Sheepshed Coulee, Wagon Bed and Iron City plus eight others outside the boundaries of this watershed. They receive no livestock grazing. They are all in or approaching PFC although they were all in FAR or NF prior to exclosure.

Regeneration is still occurring on the Missouri in the Wild and Scenic stretch despite the effects of dams, beaver, ice, low flows, drought, etc. Hansen (1989) inventoried 288 separate sapling and pole stage cottonwood sites. BLM visited all these sites in 1998 and documented that 286 of the sites did not experience hot season grazing during the period they progressed from seedlings to the sapling or pole stage. BLM also visited all 27 sites of mature cottonwoods. Normal succession of cottonwood sites should have an understory of green ash, box elder, chokecherry, gooseberry, and red oiser dogwood under the mature cottonwood trees. Only one of these sites shows the proper succession. The remaining sites all show intensive livestock use, prohibiting normal succession.

This data indicates grazing is having a major impact on the regeneration of woody vegetation along the Missouri River. Winter, spring or late fall grazing appears to be more compatible with the regeneration of riparian vegetation.

Stubble height of key riparian graminoid species (western wheatgrass, prairie cord grass, rushes and sedges) and utilization on woody species (cottonwoods and willows) is a good measure to indicate if a riparian area is progressing toward or remaining in PFC. Several studies have indicated a need for a 4 inch stubble height on the key riparian graminoid species at the end of the grazing season or growing season, whichever occurs last (Montana Watershed Coordination Council 1999, Mosley, Cook, Griffis, and O'Laughlin 1997, Ehrhart and Hansen 1998, Clary and others 1996, Clary and Leininger, 2000).

3.16 Wilderness

Dog Creek South Wilderness Study Area comprises 5150 acres within the Upper Missouri River watershed analysis area. The Missouri Breaks Wilderness Suitability Study/EIS (1987) recommended that none of the 5150 acres would be suitable for inclusion in the National Wilderness Preservation System (NWPS). However, 3902 acres were found to be consistent with UMNWSR designation and associated plans.

Approximately 1801 acres within the "wild" UMNWSR portion of the WSA are withdrawn from activities associated with mineral leasing. Development activities associated with mineral leases on the remaining 2101 acres within the UMNWSR corridor which are classified as "recreation," would be restricted.

Dog Creek South WSA is not accessible to the general public by vehicle because of a lack of legal access through private property. It is adjacent, however, to the extensively used Judith Landing campground and boat launch which provides an outstanding viewing opportunity for those recreation users, as well as the casual passerby on the county road.

One permittee has been conditionally granted, within his grazing permit, the use of motorized vehicles (OHVs) *along an existing two-track from private land onto the WSA along the river. This two-track trail was created illegally in 1979 to access the old homestead located on the benchland above the river prior to Dog Creek WSA designation. The route was not, however, included in the original WSA road inventory and identified for closure. It also was not identified as a vehicle way currently in use, as it should have been, during the WSA designation process.*

There are two small reservoirs located just inside the WSA boundary that were developed prior to the suitability study.

3.17 Wild and Scenic Rivers

The Upper Missouri National Wild and Scenic River is located between Fort Benton and U.S. Highway 191 in North Central Montana. This 149 mile stretch of river flows generally west to east through Chouteau, Blaine, Fergus and Phillips Counties. It was designated a component of the National wild and Scenic Rivers system in 1976. The watershed planning area runs from river mile 52 to approximately river mile 110 on public lands. There are 47.5 miles of "wild," 19 miles of "recreational," and approximately 5 miles of "scenic" river for a total of 71.5 miles in the watershed planning area.

Section 3(b) of the Wild and Scenic Rivers Act of 1968 directs that the boundaries of Wild and Scenic Rivers (in wild sections only) would not exceed 1/4-mile on each side of the river. Public law 94-486, which added the upper Missouri to the national system, amended this act and required the BLM "where necessary to provide a rim to rim corridor," and to determine which of the three national wild and scenic river classifications best fit portions of the river.

The Upper Missouri River is the only wild and scenic river in the national system designated with a multiple use mandate, which means the BLM has to be quite specific in its treatment of all the resources present (Upper Missouri National Wild and Scenic River Management Plan Update, Appendix A, 1993).

3.18 Economics

The planning area is situated within Fergus and Chouteau Counties in central Montana. Agriculture is a major industry in both counties. Recreation/tourism and services are also major contributors to the overall economy in the region. The total land area in farms and ranches in 1997 (the latest year for which data are available) was estimated to be 4,460,340 acres, and the total number of farms and ranches was estimated to be 1563 (USDA, 1997). The planning area, with a total of 130,656 acres, represents about 2.9 percent of the total land in farms and ranches in the two-county area. The public land portion of the planning area (49,852 acres) represents about one percent of the total land area.

The 20 permittees in the planning area represent 1.3% of the total number of farms and ranches. All of the permittees have cow-calf operations and many of the permittees also have farming operations. The 20 permittees hold a total of 5,958 BLM AUMs and are permitted to graze 1,784 cow-calf pairs and four horses for at least some portion of the year on BLM-administered land. The 5,958 AUMs contribute an estimated $167,450 and six jobs to the area's economy, after accounting for direct and indirect spending effects.

3.19 Sociology

Chouteau and Fergus counties are sparsely settled counties located in central Montana adjacent to the Missouri River. The 2000 population of Chouteau county was 5970, which was an increase of nearly 10% over 1990 (MT. Dept. of Commerce, 2001). The population density was 1.5 persons per square mile. The 2000 population of Fergus county was 11,893, which was a decrease of nearly 2 percent since 1990. The population density was 2.7 persons per square mile. Fort Benton and Lewistown are the county seats and main population centers in Chouteau and Fergus counties respectively. Fort Benton had a 2000 population of 1694 and Lewistown had a 2000 population of 5813. Both communities lost 4 to 5 percent of their population during the 1990s.

Local residents and other public land users exhibit attitudes and values typical of a rural farm/ranch oriented society in the western United States. Residents value the rural character of the area, wide open spaces, naturalness and solitude. Positive aspects of the area include the independence and industriousness of the local people, lack of urban problems, relaxed pace and personal freedom. Residents have a strong sense of heritage. These people have grown with the area, have seen changes occur and are extremely concerned about any management decisions that would potentially disrupt their lifestyles. There are 20 farm/ranch operations in the study area with BLM grazing permits. These are predominately family operations with a long history in the area. Changes currently affecting these ranches include increasing recreation in the area, designation of the Upper Missouri River as a national monument, implementation of standards and guidelines by BLM.

4.0 Environmental Consequences

Section Contents

4.1 Alternative 1, Continuation of Current Management
4.2 Alternative 2, Proposed Action
4.3 Alternative 3, No Grazing

This chapter discusses the environmental consequences from implementing the alternatives in Chapter 2. The impacts are discussed for each environmental element by alternative.

The following critical elements of the human environment were considered and would not be affected by the proposed action or any of the alternatives and will not be discussed further.

- Air quality
- Areas of Critical Environmental Concern
- Environmental Justice
- Farmlands (Prime or Unique)
- Native American Religious Concerns
- Wastes (Hazardous/Solid)
- National Energy Policy (Executive Order 13212)
- Cumulative Impacts

4.1 Alternative 1 Impacts – Continuation of Current Management

This section discusses the impacts to the various environmental elements from renewing the grazing permits with the current terms and conditions.

4.1.1 Coniferous Forest

Maintaining current management of livestock grazing would not impact coniferous forests.

4.1.2 Rangelands

If current grazing management continues, upland sites that are meeting standards would slowly improve or remain stable. All available information indicates a static or slight upward trend on upland sites meeting standards.

Upland sites not meeting standards as a result of livestock grazing such as the PN Sag and Pass Coulee allotments would continue to decline in productivity and upland range health. Without periodic rest from grazing during the growing season, perennial grasses in these degraded areas will continue to be low vigor and density with limited reproduction of desirable grasses occurring. Annual grasses, shallow rooted perennial grasses, forbs, cactus, and fringed sagewort would continue to be abundant.

Under current management, PN Sag and Pass Coulee allotment will continue to receive prolonged livestock grazing throughout the grazing season. Plants on these sites are not vigorous and lack sufficient root reserves and roots mass to adequately cope with drought. These allotments are at high risk of continued deterioration and may eventually drop into an early seral category, with lower plant diversity, severe loss of top soil and productivity.

Rangelands not meeting standards for other reasons would continue to not meet standards. Sites not meeting standards as a result of prairie dogs such as the southern portion of Starve Out Flats would remain static or decline in upland health under all alternatives. Upland sites not meeting standards as a result of annual grasses and weeds such as Eagle Butte allotment would remain static or decline. These weeds and grasses are not noxious weeds and are very cyclic in nature. Since public land on this allotment is on the disposal list, no management actions would be taken. Sites not meeting standards as a result of blue grama/clubmoss such as a portion of Dog Creek allotment, small portions of Deadman Coulee and Tonne pasture in White Rock Allotment would remain static in the short term but may improve over a period of many decades.

4.1.3 Soils

This alternative would generate the highest level of soil loss from wind and water erosion. Most of the accelerated erosion in this watershed is coming from allotments not meeting the upland standard. *If no changes are made to management,* soils in these allotments will continue to lack sufficient ground cover and root density to resist erosion and will continue to erode at levels higher than expected for the site. Infiltration of precipitation into soils of these sites will be reduced by soil compaction, lack of plant and ground cover to intercept overland flow and lack of organic matter near the soil surface. *Loss of top soil from wind erosion would continue to increase on PN Sag and Pass Coulee allotments. Accelerated erosion would not occur on allotments that are meeting the upland standard as plant cover and type on these allotments would remain adequate to resist erosion.*

4.1.4 Weeds

Under current management, noxious weeds within the planning area would continue to spread. The BLM, LFO would administer the present weed control program which has not kept pace with weed infestation growth. Riparian and upland inventories during the Upper Missouri National Wild and Scenic River designation process revealed no known noxious weed infestations. In 1983, 20 acres of weeds were identified and treated along the Missouri River from Coal Banks to the Fred Robinson Bridge. In 1992, the LFO BLM fire crew treated all noxious weed infestations between Judith Landing and Woodhawk bottom. A detailed noxious weed inventory completed during 1999 and 2000 revealed 500 acres of noxious weeds on BLM land within this same area along the Missouri River - a dramatic increase. Weed control efficacy has lagged behind infestation growth collectively due to the inherent nature of weed propagation in river systems, an unsystematic control effort, a lack of BLM and public awareness and education, herbicide label restrictions, herbicide effectiveness, and tedious bioagent development, adaptation, and dissemination. Continued current management would concentrate weed control efforts in established campgrounds and developed recreation sites along the river, and on uplands through cooperative weed control agreements with livestock permittees.

4.1.5 Recreation

Current levels of recreation visitation for the river and uplands in the planning area are expected to increase over the next several years. River campsites are limited and visitor use of the one existing developed site in the watershed planning area, Hole-in-the-Wall, would increase under this alternative. As the existing foot trail leading up to this unique sandstone rock formation becomes more eroded with increasing use it would be more noticeable from upriver by recreationists, thereby increasing the visual intrusion.

Recreation impacts in the watershed planning area would primarily be associated with site-specific areas such as the Hole-in-the-Wall, along the river corridor, where camping or other recreation activities occur in association with the Upper Missouri National Wild and Scenic River. While the Hole-in-the-Wall Trail would be expected to receive the most use in the next several years as a direct result of the upcoming Lewis and Clark Bicentennial event, other geologic attractions in the highly visible white cliffs area of the river are expected to receive a high degree of attention from river floaters and others wanting to drive to the area.

Special Recreation Permits (SRPs) would remain at current levels (4) for upland commercial hunting and guiding operations. This is primarily due to the lack of access by road into the Missouri Breaks within the watershed planning area. Presently, there is only one historical tour operator for the Upper Missouri National Wild and Scenic River in the White Cliffs area of the watershed. This individual accesses the area through private property. BLM anticipates that there may be a future increase in interest for conducting these types of commercial tours. BLM would consider any new applicants interested in conducting this type of commercial activity.

Hunting opportunities for the general public in the planning area are somewhat limited due to lack of legal access, but none-the-less account for the highest percentage of overall recreation use in the uplands of the Missouri Breaks. This trend would be expected to continue, and perhaps increase due to the designation of the Monument. Outfitters provide sheep and elk hunting trips to their clientele from ranch headquarters on a day use basis in the planning area. No overnight camping on public land occurs by the outfitting operators at the present time.

4.1.6 VRM

There would be no impacts *to the visual resource under this alternative* because there are *no* projects proposed.

4.1.7 OHV

Off Highway Vehicle planning, *with the exception of regulations currently in place*, would be deferred to the Monument planning effort. *A low* to moderate density *of* two track trails *currently exist* in the planning area *and* two track trail maintenance *is currently* allowed on a case-by-case basis as authorized by BLM. *This does not, however, include illegally created user trails in the WSA.*

4.1.8 Wildlife Resources

Under current management, the riparian, upland health, and the sage grouse habitat issues that have been identified would not improve. Areas of heavy use caused by poor livestock distribution would continue to impact wildlife using the area. Some areas would have little residual herbaceous vegetation to meet the needs of wintering big game and ground nesting birds. Other areas in the watershed would have abundant residual vegetation because of the lack of livestock water and wildlife would continue to benefit from this situation.

Improvement of riparian areas would likely not occur and the health ratings would remain static or continue to degrade. For many of the grazing allotments the Missouri River is the only livestock water that is available. Under current management there are no plans to develop upland waters and consequently livestock would continue to concentrate on the river for both forage and water leaving little to no chance for the riparian vegetation to expand and reach its potential. Unhealthy riparian areas would be a negative impact to most wildlife species.

Vegetative diversity and structure that are associated with healthy riparian would not be available for cover, foraging and nesting areas for many species. Some of the cottonwood, green ash, and box elder stands that are currently struggling to hang on along the shores of the river may disappear if the regeneration is not allowed to become established and grow out of reach of livestock browsing. Losing or reducing these stands of deciduous trees would be a severe impact to the neotropical birds and other birds and animals that count on this habitat for nesting, young rearing, and cover particularly during the summer months. Elimination of mature cottonwood stands would also be a negative impact to the threatened and endangered species such as the bald eagle and pallid sturgeon; potential nesting sites for the eagle and woody debris for sturgeon and sauger cover in the river would not be available.

Old degraded fences that exist on some BLM land would more than likely remain under current management and continue to be hazards for wildlife and livestock alike. The proposal to enhance native vegetation by chisel plowing and seeding would not occur under current management and the condition of sage grouse habitat would remain static.

4.1.9 Wildland Fire Suppression

Fire would be managed in cost effective manner that provides for public and fire fighter safety. Fire suppression would also be appropriate to the condition and value of the public land protected. Different levels of fire management response have been developed based on public and fire fighter safety, public and private improvements and resource values at risk.

4.1.10 Prescribed Fire

Prescribed burning would be conducted on selected tracts of land in the watershed. The need for prescribed fire would be based on the analysis conducted during RMP, Watershed or other land use planning efforts. Prescribed fire would be used to reduce the throat and severity of large wild fires, improve wildlife and riparian habitat and range land improvement.

4.1.11 Cultural Resources

Under current management, cultural sites and districts would remain static to slightly deteriorating. Direct impacts to specific sites or districts from BLM approved actions would be reduced or eliminated where possible. Visual impacts to sites or districts would be mitigated or eliminated where setting contributes to site integrity. Less specific impacts such as the gradual loss or deterioration through erosion or weathering would continue. Loss and damage would also continue to occur as a result of unauthorized and unlawful collection and/or vandalism.

Specific cultural sites would continue to be identified for stabilization or mitigation of loss as time and funding allow.

4.1.12 Surface Water

This alternative would cause no additional impacts to surface water quantity or quality. This alternative would not address the current surface water impairment or comply with the total maximum daily load (TMDL) process since no improvements would be made to upland or riparian vegetation.

4.1.13 Ground Water

This alternative would cause no impacts to ground water quality or quantity.

4.1.14 Riparian

Livestock grazing is a major factor in some riparian areas not meeting standards (less than PFC) as determined by BLM inventories (Appendix E). These areas would remain static or continue in a downward trend since no changes in livestock grazing would occur. One exception is the Hole-in-the-Wall allotment which is in a upward trend due to a grazing system change that was implemented four years ago.

4.1.15 Wilderness

There are no projects proposed in the watershed planning effort that would impact this *WSA. However, the* existing road *on the* WSA would continue to be open for winter access to *the operator's* cattle herd *in accordance with their current grazing permit.*
Under this permit, livestock are not allowed to graze the riparian area adjacent to the Missouri River within the Dog Creek WSA during the hot, or late summer season. If BLM closes the two-track to the operator, livestock would again be permitted to utilize the riparian area along the river in the Dog Creek WSA for grazing during the hot season.

The issue of the allowing motorized use to continue on the two-track should be addressed in the Monument RMP because it was not designated as a vehicle way at the time of WSA designation. In accordance with the WSA Interim Management Policy (IMP), a determination is needed regarding the legality of leaving this two-track open as a defacto way.

4.1.16 Wild and Scenic Rivers

There are no projects planned under this alternative that would impact the section(s) of wild, recreational or scenic stretches of river within the planning area.

4.1.17 Economics

Continuation of current management will not likely cause any economic impact to the planning area. However, continued decrease in the quality of upland and riparian conditions in some areas could decrease production of livestock forage and, ultimately, livestock production, in the long term.

Other economic activities across the planning area, especially recreation, are not likely to be affected under this alternative, although there may be some site-specific impacts where resource conditions continue to deteriorate.

4.1.18 Sociology

Under current management there would be no effects to permittees in the watershed.

4.2 Alternative 2 Impacts – Proposed Action

4.2.1 Coniferous Forest

The levels and type of livestock grazing proposed under alternative 2 would not impact coniferous forests.

4.2.2 Rangelands

The proposed action would provide land with periodic rest from grazing during the growing season through various types of rotational grazing systems or limited season of use. Water developments, salting, and changes in season of use would better distribute livestock use. If monitoring indicates significant progress towards meeting standards is not made, corrective action would be required as shown in Appendix F.

By applying the grazing management guidelines and the changes outlined in the proposed action the following impacts would occur on rangeland and soils in each allotment.

Discussion of soil stability is undertaken with an understanding of the high natural rates of geologic erosion of soils in the western sedimentary plains and in portions of the western glaciated plains MLRA. Even in the absence of disturbance of any form, certain soils derived from shales and sandstones will continue to erode at high levels. When soil stability is mentioned, it is expected that erosion levels will be within the natural, geologic rates for the various soil types in the allotment.

4.2.2.1 Rattlesnake Coulee, Black Rock, Miller Place, Kipps Rapids, Cutbank Coulee, Mud Springs Coulee, Sherry Coulee, Flat Creek and PN Individual Allotments.

Rangeland conditions on these allotments are meeting standards and conditions of these plant communities would remain the same or improve slowly. No changes have been made to these allotments under this alternative and upland trends on these allotments are static or up.

Impacts to soils would be positive. Conditions would remain adequate for long-term health and stability of soils.

4.2.2.2 White Rock Allotment

Rangeland conditions would remain static or improve slowly. Health assessments conducted in 2000 determined that the vast majority of the allotment was meeting the upland standard except for small portions (less than 5% of allotment) of blue grama/dense clubmoss dominated sites in Tonne Pasture. The allotment has been stocked lightly in recent years. If the allotment is fully stocked, the two pasture deferred system would allow grazing and rest periods for plants at different times of the year and would maintain the health and vigor of plants.

Sites dominated exclusively by blue grama and clubmoss in portions of Tonne Pasture probably occurred as a result of heavy, prolonged grazing many years ago. These sites lack plant community diversity and structure and have a poorly functioning water cycle, all important components of the upland health standard. Blue grama and clubmoss forms a dense sod and has a high root density in the top few inches of the soil profile. This root system is very efficient in utilizing moisture from light to moderate precipitation events quickly, often before it can percolate deeper into the soil profile. Even with complete rest from grazing or improvement in grazing, these sites would not change for decades. By applying disturbance followed by rest, upland conditions on these sites would improve rapidly.

Mechanical treatment in the form of chiseling would break up the sod and root systems and improve infiltration of water into the soil. In addition, breaking up the dense sod would allow deeper rooted grasses, forbs, and shrubs an opportunity to establish. To improve recovery the treated site may be seeded with native plants. After two to three years these sites would have better infiltration of precipitation and much higher plant community diversity and structure. Blue grama and clubmoss would still be present after treatment but at much lower levels.

Impacts to soils would be positive. Plant cover would be maintained at levels adequate to reduce erosion. Although disturbance would occur on Tonne Allotment *as a result of chisel plowing, this disturbance would be temporary and would be offset by the long improvements though establishment of deeper rooted grasses and improvement in soil porosity and water infiltration into soil.*

4.2.2.3 Hole-in-the-Wall Allotment

Rangeland conditions would remain static or improve. These sites are meeting standards and no changes have been made to management of livestock.

Impacts to soils would be positive. Conditions would remain adequate for long-term health and stability of soils.

4.2.2.4 Dammel Allotment

Rangeland conditions would improve on the slopes directly above the river because of decreased use by livestock and enforcement of season of use and numbers. Conditions of other upland areas would remain the same. All upland sites are meeting standards.

Impacts to soils would be positive. Conditions would remain adequate for long-term health and stability of soils.

4.2.2.5 Eagle Butte Allotment

Rangeland conditions would remain the same or continue to decline in health under this alternative. Currently no grazing is occurring, however grazing use would resume if the permittee requested it. Moderate levels of grazing would benefit upland conditions as excessive buildup of mulch (plant litter) is present. Since these two small parcels are on the disposal list, no changes would be implemented. Since the weeds and annual grasses present are not considered noxious, they would not be treated. Annual mustard, cheat grass, Japanese brome and wild oats would continue to be present in high quantities. These annual grasses are very cyclic in nature and abundance would vary with climatic conditions. If grazing resumes, weeds may be suppressed to some degree but would still be present.

Lack of grazing will continue to slow cycling of nutrients from plant to soil. However plant cover would be maintained at levels adequate to reduce erosion.

4.2.2.6 Pass Coulee Allotment

Rangeland conditions would improve. Under the proposed action, the allotment would not receive grazing during the period of the growing season when soil moisture is high (May-June). This rest period would allow plants to regain vigor and rebuild root reserves and root systems that have weakened as a result of many years of heavy, season long grazing. Depending on climatic fluctuations, uplands should show positive signs of recovery and make significant progress towards meeting the upland standard in six to eight years. *If the permittee elects to fence private land separate from public land, recovery would proceed at a faster rate as additional control of livestock use would be possible.*

All actions outlined in the proposed action would cause soil conditions to improve. Ground cover would increase and plant rooting depth would increase resulting in improved soil stability and health. Excessive livestock trailing on slopes would decrease. Soil erosion would be less than under alternative 1 (continuation of current management).

4.2.2.7 Sheep Shed Coulee Allotment

Rangeland conditions would remain the same on the north portion of the allotment, however improvement in livestock distribution would result in an upward trend on south portions of the allotment as a result of the alternative turn out location of livestock each year. The change in turn out location would improve conditions in the south portion of the allotment as cattle distribution would shift to the north portion of the allotment every other year. Currently much of the uplands in the north portion of the allotment receives little livestock use except near the Missouri River (see Section 2.2.1.13). Enforcement of guideline 15 would reduce trespass use of Flat Creek in the south portion of the allotment and would improve upland conditions near the creek. If a well is developed on private land and the water saver on public land is used, conditions would improve at a faster rate. If a three pasture deferred rotation is developed, conditions would improve at a faster rate.

Impacts to soils would be positive. Conditions would remain adequate for long-term health and stability of soils.

4.2.2.8 Flat Creek Allotment

Rangeland conditions would remain the same. The southern portion of this allotment would be merged with Sheep Shed Coulee and is evaluated as part of Sheep Shed Coulee allotment. Upland conditions on the remaining northern portion of the allotment would continue to improve. This portion would remain as Flat Creek allotment. No changes have been made in management on this allotment and trend is up.

Impacts to soils would be positive. Conditions would remain adequate for long-term stability and health of soils.

4.2.2.9 Starve Out Flats Allotment

Rangeland conditions would remain healthy in north portion of allotment. This site is at PNC and could not achieve a higher rating. Areas on or near prairie dog town in the south portion of the allotment would decline or remain static in trend. If a stock water pipeline is installed and a two pasture deferred rotation grazing system implemented, areas not used by prairie dogs in the south portions of the allotment would improve and the north portion of the allotment would remain the same. Areas used by prairie dogs would remain the same or decline.

If the two pasture rotation system is implemented, better distribution of livestock use would occur and half of the allotment would receive rest during a portion of the growing season. The alternating sequence of cattle rotations would improve plant vigor by exposing plants to grazing and rest at a different time each year. Installation of two water tanks and separation of the allotment into two pastures would reduce heavy livestock use near Flat Creek. Some additional disturbance would occur near the two water tanks. Heavy disturbance would be limited to areas a few feet from the water tank, however forage utilization would be much higher within 1/4 of a mile of the water tanks. These impacts would be offset by the improvement in cattle distribution and upland conditions throughout the allotment. If a three pasture rotation grazing system is developed at a later date, benefits to upland conditions would increase as a larger portion of allotment would receive rest during the growing season.

Impacts to soil resources would be positive. Conditions would remain adequate for long-term stability and health of soils.

4.2.2.10 Deadman Coulee Allotment

Implementation of a four pasture rotation grazing system would improve upland conditions on Deadman Coulee allotment. Under this grazing system, better distribution of livestock use would occur and portions of the allotment would receive rest during the growing season. The establishment of a seven inch stubble height on portions of the allotment combined with grazing rotations would maintain the health and vigor of stands of blue bunch wheatgrass that are common on the east portion of the allotment.

If a pipeline and water tanks are installed, some additional disturbance would occur near the water tank that would be installed on public lands under this proposal. This disturbance would be limited to areas a few feet from the water tank. Utilization of forage by livestock would be higher within 1/4 of a mile of the water tanks. These impacts would be offset by the overall improvement in cattle distribution.

Impacts to soils would be positive. Conditions would remain adequate for long-term stability and health of soils.

4.2.2.11 PN Sag Allotment

Rangeland conditions would improve under the two deferred rotation grazing systems on PN Sag. This grazing system would better distribute cattle use and would allow plant growth to occur on much of the uplands during the growing season. In the past much of this allotment was grazed summer long. The alternating sequence of cattle rotations will also improve plant vigor by exposing plants to grazing and rest at a different time each year.

Impacts to soils would be positive. Conditions would improve within four to five years to levels that would be sufficient to insure long-term stability and health of soils. Soil erosion would be less than under the alternative 1 (continuation of current management).

4.2.2.12 Judith River Allotment

Rangeland conditions would improve. Winter/early spring use would allow vegetation a rest period during the growing season. During this period cattle would be fed hay on private land but could still graze public lands. Although some grazing use would occur in summer, such use would be very slight as the main herds will be grazing in the Sag Allotment at this time.

Impacts to soils would be positive. Conditions would remain adequate for long-term stability and health of soils.

4.2.2.13 Dog Creek Allotment

Rangeland conditions would improve in some areas and remain static in others. Upland sites that are meeting standards on benches above Dog Creek would remain static and in healthy condition. Uplands near Dog Creek will improve as a result of winter grazing which will allow a rest period during the growing season on most years.

Sites dominated by blue grama/dense clubmoss near lower Dog Creek would improve with treatment by concentrated livestock use for a very short period (1-2 weeks) followed by rest. Use of livestock hoof action to disturb blue grama/dense clubmoss sites have shown to rapidly improve conditions and allow establishment of grasses on other allotments near Arrow Creek. This method, combined with seeding of native grasses before treatment, would concentrate livestock use to break sod up, churn seed into the soil, and fertilize the site through livestock concentration and trampling of manure. This treatment would be conducted only within specific dates as established by BLM.

Blue grama/dense clubmoss dominated sites that are treated would be rested for two growing seasons to allow recovery and establishment of new seedings. Risk of noxious weeds invasion would be reduced through use of weed free hay or cake to concentrate livestock. In addition, post treatment monitoring would occur and any weeds detected would be treated. This type of treatment would be conducted on very small areas (1-3 acres) and would be a one time treatment to achieve a more diverse plant community in blue grama/dense clubmoss dominated sites. Total affected acres by this treatment would be less than 15 acres. Potential treatment sites are shown on map M5.

Impacts to soils would be positive. Short-term disturbance to soils would occur on sites that are treated for blue grama and clubmoss. However overall soil condition would improve as deeper rooted grass species establish. Improved infiltration would result in overall positive impacts as long as these areas are rested after treatment. Overall, conditions would remain adequate for long-term stability and health of soils. Winter grazing would result in reduced compaction of soils on the flood plain along Dog Creek.

4.2.2.14 River Allotment

Rangeland conditions would remain the same. These sites are meeting standards with desired plant communities thriving. Few changes have been made to management.

Impacts to soil resources would be positive. Conditions would remain adequate for long-term stability and health of soils.

4.2.2.15 Iron City Island Allotment

Rangeland conditions would remain the same. These sites are meeting standards with desired plant communities thriving. Other than construction of riparian exclosures, no changes would be made to management. The size of the riparian exclosures are not large enough to reduce the forage base to the point that livestock would have a negative impact on the uplands.

Impacts to soil resources would be positive. Conditions would remain adequate for long-term stability and health of soils.

4.2.2.16 Mattuschek Allotment

Rangeland conditions would improve. The installation of a water saver and water tanks in McDonald Ridge and Middle pasture would improve livestock distribution. Upland sites in these pastures that are currently receiving little use would receive more use and sites receiving heavy use would receive moderate use. In addition, the early turn out of 60 cattle near the River will cause livestock use to shift to the adjacent slopes directly above the River as grass will be green and succulent and temperatures favorable at this time. Currently these slopes are receiving little use.

4.2.3 Soils

Conditions would be maintained and/or improved to levels that would insure long-term stability and health of soils.

4.2.4 Weeds

Implementation of Alternative 2 would initiate a comprehensive, cooperative weed control effort which would systematically assault noxious weeds in the planning area. Priorities would be established utilizing the weed categories outlined in Chapter 2, and the site-specific weed control prescriptions detailed in the UMRBNM:GIWM. Infested acres of noxious weeds would decrease through an aggressive, concentrated effort involving all facets of an integrated weed management program.

Existing infestations of Category 1 noxious weeds would be contained and suppressed utilizing herbicides and biological control. Biological control of leafy spurge has produced very favorable results within the watershed; continual monitoring, dissemination, and new releases of biocontrol agents in addition to continued herbicide control would perpetuate a steady downward trend in leafy spurge acreage. Russian knapweed would be controlled solely with herbicides until an effective bioagent is approved and released. Assertive monitoring would assist in the prevention of new infestations of Category 1 weeds through early detection and control.

Existing infestations of Category 2 noxious weeds would be contained and suppressed/eradicated utilizing herbicides and biological control. Small, relatively new infestations would be eradicated with herbicides. Established, larger infestations of Category 2 weeds would be contained and suppressed with herbicides and applicable biocontrol agents. Assertive monitoring and public awareness/outreach would assist in the prevention of new infestations of Category 2 weeds through early detection and eradication.

Category 3 noxious weeds have not been detected in the watershed area or may be found only in small, scattered, localized infestations. Assertive monitoring and public awareness/outreach would assist in the prevention of new infestations of Category 3 weeds through early detection and eradication.

4.2.5 Recreation

Same as Alternative 1.

4.2.6 VRM

Visual Resource Management analysis would be conducted on a project specific basis in the watershed planning area.

Proper livestock management along the river and adjacent riparian areas have a high degree of importance to VRM. Proposed livestock improvements and/or exclosures in riparian areas attract the most attention of the casual recreation user of public lands, but are significantly less visually intrusive in the uplands. Where possible, livestock developments would be placed in areas with higher classification ratings.

Noxious weed control would improve the visual resource, especially from a foreground perspective when they are found and eradicated adjacent to roads. Weeds do have a negative impact to the viewer if they are aware of the presence of a non-native species in the environment. Proper noxious weed control improves wildlife habitat, thereby increasing opportunities for hunting and viewing of big game species.

Projects in the planning area proposed after official implementation of the Monument plan could be subject to possible changes in VRM classification.

4.2.7 OHV

Same as Alternative 1.

4.2.8 Wildlife Resources

Under the proposed action all livestock permittees would be required to meet standards for rangeland health. These standards include a mandate that uplands and riparian areas be in proper functioning condition (PFC) or be making significant progress towards PFC. When all standards for rangeland health have been achieved in the watershed the issues of riparian health, upland health, and upland game bird nesting habitat will be minimized. Several different approaches to meeting standards have been described in this proposal, each designed to fit the issue that was identified in the allotment and still accommodate the needs of the individual ranching operation. These proposals include: (1) BLM construction and permittee maintenance of riparian exclosures along the Missouri River; (2) BLM development of new upland water sources and reconstructions of others; (3) BLM and permittee working together to arrive at new grazing systems to provide for the needs of the vegetation and the individual ranching operation (these systems are calling for changes in livestock numbers and season of use on many allotments); (4) construction of new fences in two situations if the grazing proposal is not effective; (5) treat clubmoss and plant desirable native vegetation; and (6) prescribed burning to improve vegetative condition, remove encroaching conifers and reduce the fuel load in decadent coniferous forest stands. Each of these methods of striving to meet the rangeland standards would have a positive effect on the wildlife in the Upper Missouri watershed area.

The proposed action would not affect any T&E species or their associated habitat in a negative manner. Under this proposal, the goal of improving the riparian habitat along the Missouri River and establishing sustainable cottonwood stands at the rivers edge would directly benefit the bald eagle and the pallid sturgeon. The primary sensitive species in the watershed, the sage grouse will be benefitted by this proposal. Only two small populations of sage grouse were identified in the watershed. Each of these areas have a proposal outlined in this alternative to address the nesting cover issue that was brought forth in this watershed and to satisfy the needs of sage grouse. The special status black tailed prairie dog is present in the watershed but opportunities to improve their habitat are limited. Current policy which allows for expansion of the prairie dog towns onto public land would be continued.

No significant changes or requests are being proposed for the Rattlesnake, Black Rock, Cutbank Coulee, Eagle Butte, Flat Creek, Hole-in-the-wall, Kipp's Rapids, Miller Place, Mud Springs Coulee, Sherry Coulee, and PN Individual allotments that will change the wildlife resources currently present. The impacts associated with the proposed action on these allotments would be similar to those described in Alternative 1, Continuation of Current Management. If the proposed action is adopted there will be some impact to wildlife resources associated with the following grazing allotments:

4.2.8.1 Tonne and Able Place pastures of the White Rock Allotment

The proposal to treat and interseed 50 to 100 acres on the Tonne pasture would enhance sage grouse by promoting sagebrush and other native prairie plant species in place of the existing clubmoss and other unproductive mat forming species. The implementation of a two pasture deferred rotation grazing system would accommodate the establishment of the new vegetation on the chisel plow treatment. *This treatment would be detrimental to mountain plovers and other birds that prefer to nest in clubmoss and short grass areas if they happen to be present. A nesting bird inventory would be done on the project area in the spring prior to implementation of the project. If nesting birds are located the treatment would not be completed or buffered appropriately.* This treatment would also provide a renewed supply of mule deer forage in this area of fairly high deer numbers.

4.2.8.2 Sheepshed Coulee Allotment

The proposal to remove several hundred yards of dilapidated barb wire fence from BLM land would improve the mule deer habitat in the Last Chance Bench area. The riparian exclosure that is proposed along the Missouri River near the mouth of Sheep Shed Coulee is designed to protect and promote a stand of deciduous trees that is primarily green ash which is heavily used by mule deer and provides nesting cover for many species of birds. An exclosure at this location would provide nesting cover for all of the waterfowl species and foraging areas for peregrine falcons and other raptors in an area of very available falcon nesting opportunities. If standards are not met, the opportunity to cross fence the allotment and establish a rotation grazing system would insure that upland and riparian health and habitat conditions would improve.

4.2.8.3 Dammel Allotment

A reduction in AUMs on the river pasture and enforcement of seasons of use and livestock numbers would undoubtedly result in improvement of the riparian habitat. The area is not conducive to cottonwood establishment but deer and many birds species would take advantage of the increased herbaceous and shrubby riparian vegetation.

4.2.8.4 Pass Coulee Allotment

The reduction in AUMs and later turn out dates proposed for this allotment would help improve the upland range condition. Improvement in the uplands would be beneficial to mule deer. If sagebrush rebounded enough, sage grouse may return to the area. Sage grouse were known to spend time in the allotment and the area is not far from the Deadman Coulee lek. The two grazing exclosures proposed to protect the riparian resource would help to sustain the minnow population in the perennial portion of Flat Creek.

4.2.8.5 Deadman Coulee and Starve Out Flats Allotments

The sage grouse nesting habitat that is associated with the Deadman Coulee lek would be negatively impacted if additional livestock use was to occur on the otherwise very lightly used area where the grouse prefer to nest. The deferred rotational grazing systems being proposed for the Deadman Coulee allotment would help provide some areas of available nesting cover each spring. A seven inch stubble height standard would be established for bluebunch wheatgrass in the nesting habitat. The stubble height standard for these areas would not be a constraint to livestock operations because there is typically more than seven inches of residual forage remaining in this areas under existing management. These standards are designed to make sure that management changes outlined in this watershed plan do not impact the grouse nesting habitat. Each pasture in the nesting area, one in Starve Out Flats and two in Deadman Coulee allotment, have established monitoring transects that would be recorded regularly to make sure this standard is being accomplished. The BLM would construct a new fence to protect the grouse nesting habitat if the stubble height standard is not met. Improved livestock distribution and grazing deferment would benefit mule deer habitat and help riparian conditions and subsequent sage grouse brood rearing habitat on Flat Creek.

In the future, if the water well, pipeline, and series of tanks are constructed, this action would be mitigated to protect the nesting habitat. If the pipeline system were to become reality, the permittees and the BLM staff have agreed to tank locations in areas away from the grouse lek and in habitat that would not be preferred for nesting.

4.2.8.6 PN Allotments

The proposed action on the PN allotments would not be detrimental to upland wildlife species but would not be extremely beneficial either. The deferred grazing being proposed for the PN Sag allotment would eventually improve the condition of the uplands and benefit mule deer and all of the ground nesting birds. Nearly all of the black tailed prairie dog towns in the Upper Missouri watershed are located within the boundaries of the PN Ranch. This immediate proposal would not have an effect on prairie dogs.

The maintenance of winter grazing in the cottonwood stands along the Missouri River on the Dog Creek allotment would promote continual cottonwood establishment and growth on this productive stand. Once seedlings have been allowed to establish and mature to saplings the opportunity to eventually grow mature cottonwoods again is greatly enhanced. Controlling livestock grazing, or in this case timing of grazing, on the young cottonwoods is essential to getting this cycle started. Riparian habitat along the Missouri River would increase in vegetative diversity and structure. Nearly all wildlife species that prefer to live along the rivers edge would benefit from the enhanced stands of trees. The improved cottonwood stands would provide better structure and cover for nesting neotropical birds. Big game and other wildlife species that inhabit these allotments would have renewed supply of forage in the understory and better cover in the otherwise open habitat. Bald eagles and other raptors would have a continual supply of nesting and perching trees. Pallid sturgeons, saugers and the other river fish would eventually get some woody debris in the water to enhance the structure and cover on the river bottom.

4.2.8.7 Iron City Island Allotment

Two new riparian exclosure fences would be developed in the Iron City Island allotment under this proposal. BLM fence standards to accommodate wildlife movement would be adhered to in all cases of new fence construction. The primary concern for wildlife movement in riparian areas would be whitetail and mule deer; they can both be accommodated by the same fence construction stipulation. Vegetative improvement inside these exclosures, particularly the deciduous tree component, would be a major positive impact to all wildlife and would far outweigh any inconvenience that negotiating the fences would cause the deer. These exclosures would be constructed on river building sites which are areas in the river channel where the alluvial material is being deposited and is most conducive to seedling establishment and survival. Benefits to wildlife from these riparian exclosures would be similar to those described from winter grazing on the Dog Creek allotment.

The prescribed burning that is proposed in the allotment is targeted at improving bighorn sheep habitat but would also have secondary benefits to elk, mule deer and other wildlife. Bighorn sheep have tendency to be very cyclic and prone to disease. The sheep and everyone involved with their management would benefit from habitat improvements designed to minimize the impact of a disease outbreak. Prescribed fire would be a desirable management tool to improve quality and quantity of bighorn sheep forage and reduce available cover for such predators as mountain lions. Recently burned areas would provide earlier green up of grass and forbs on winter/spring ranges and encourage resprouting and subsequent younger and more palatable plants of many of the desirable browse species in the breaks habitat. Individual treatment areas would be small in size in order to accommodate seed dispersal into the treated areas from the non-sprouting species. Most of the area identified for fire treatment would be at the lower elevation in the steep topography just above the Missouri River. Treatments would be done while there is snow in the higher elevations for fire control to meet prescriptions. These areas would naturally green up earliest for maximum early spring benefit to the sheep. The sheep would also prefer to be in these areas during periods of deep snow. Burning during winter and early spring would create a mosaic burn pattern that would provide more edge between habitat types and promote a higher diversity of both plant and animal life.

4.2.8.8 Mattuschek and River Allotments

The two additional water savers proposed for the Mattuschek and River allotments would distribute livestock into areas that they have not traditionally used. This would relieve livestock grazing pressure from the river and the other upland waters and would help improve the riparian habitat. Ground nesting birds would be only minimally affected because there is very little brush cover in the area of the new waters. Bighorn sheep would not overlap much with the new livestock use areas because they prefer steeper terrain some distance from the water sources. Elk would be affected minimally by these new waters. There are abundant open ridges and forested areas in the allotment where elk feed and cattle are not using. Elk are also very comfortable using the adjacent grain and hay fields during the times of year when that forage source is palatable.

Prescribed burn projects for these allotments would be similar in objective and design as those described for the Iron City Island allotment. The section of the watershed which encompasses these three allotments has a high density of bighorn sheep and provides some of the most desired habitat in the herd unit. The benefits of the rejuvenated vegetation would be very apparent shortly after the treatment in this area. The block burn identified for the middle pasture of Mattuscheck allotment would be targeted at reducing heavily forested fuels and increased herbaceous forage for elk and livestock more than just bighorn habitat improvement. The middle pasture burn would be done in larger blocks and be in gentler terrain that is more accessible to livestock. It would require temporary fencing or deferment to provide two growing seasons of rest from livestock use to the treated area.

4.2.9 Wildland Fire Suppression

Same as Alternative 1.

4.2.10 Prescribed Fire

Implementation of Alternative 2 would initiate a prescribed fire program of work that would include burning for wildlife and fuel hazard reduction. Fire, in most cases, is desirable throughout this Watershed. BLM would use prescribed fire to achieve desired plant communities, to manage and enhance wildlife forage and cover, and to reduce hazardous fuel loads. Prescribed fires would generally not be used in areas of limited BLM ownership unless coordinated with adjacent landowners to achieve mutually beneficial objectives. Wherever possible, prescribed fires will minimize impacts to sagebrush communities. BLM will coordinate fuel management with private landowners, affected interests, and other agencies. Land uses will be monitored and adjusted as necessary after fire to sustain stable soils and vegetation.

Prescribed burning will not occur in a location or under conditions that would deteriorate air quality related values in Class I areas. Prescribed burning would not occur in a location or under conditions that result in a deterioration of air quality in areas designated non-attainment areas. Prescribed fires require the approval from the Montana Department of Health and Environmental Science, Air Quality Bureau. Prescribed fire will conform with the provisions of state regulations and implementation plans as specified in 9210-Fire Planning section of the BLM manual.

4.2.11 Cultural Resources

Similar to Alternative 1, except some minor beneficial impacts could result from management actions that reduce erosion.

4.2.12 Surface Water

The prescribed burns proposed in this alternative would increase erosion and sedimentation on the areas burned until re-vegetation is successful. The burns are proposed to be no larger than 20-30 acre parcels and will be conducted in a mosaic pattern. This action would provide buffers to trap sediment and retard erosion from advancing off the burned sites. Only a small amount of the increased sediment production from the burned sites would reach the Missouri River. This small increase would not be detectable in water quality samples. The remainder of the proposed actions in this alternative would improve riparian areas. Increased ground cover by riparian vegetation would increase the amount of sediment trapped and retard stream bank erosion. The cumulative impact of carefully controlled burns and improved riparian areas in the watershed would be improved surface water quality in the Missouri River. This alternative addresses the TMDL process by (1) identifying and implementing best management practices; (2) a public involvement program; (3) implementation mechanisms; and (4) a monitoring program. The size of this watershed in relation to the size of the upper Missouri watershed means the improvement in water quality would be real but probably would not be measurable at monitoring sites along the Missouri River.

No changes in grazing systems are proposed for public lands in the Judith River drainage. No impact to surface water quality in Judith River is anticipated as a result of this alternative.

4.2.13 Ground Water

No impacts to ground water would occur as a result of this alternative. The lack of shallow ground water in the planning area limits the options available to managers for those allotments not meeting standards.

4.2.14 Riparian

No changes are proposed for the Rattlesnake, Black Rock, Cutbank Coulee, Eagle Butte, Flat Creek, Hole-in-the-Wall, Kipp's Rapids, Miller Place, Mud Springs Coulee, Sherry Coulee and PN Individual allotments.

Chapter three mentions the various factors affecting riparian establishment and health.

Despite all these factors, some new riparian establishment does occur every year. When and where this establishment occurs, BLM must be managing livestock for healthy riparian areas in order to protect this young vegetation. The following discussion describes by allotment the management systems proposed to allow those areas not meeting standards to progress toward PFC. In many cases hot season riparian grazing would be reduced on riparian areas on the river. Livestock exclosures would be used to reduce impacts on some riparian sites on the river when it is not practical to manage these areas with larger pastures. Exclosures would not be large enough to create a impact to the forage base of the livestock operator.

4.2.14.1 White Rock and Tonne Allotments

The proposed changes on the White Rock and Tonne allotment would have no impacts on riparian polygons 1410-20 and 1474-8. Control of livestock from neighboring allotments would allow both these polygons to achieve an upward trend.

4.2.14.2 Dammel Allotment

A reduction of 72 AUMs on the Dammel allotment plus enforcement of seasons and numbers of livestock should result in an upward trend on riparian polygons 1539-42 and 1562. If significant progress toward PFC is not being made, a riparian pasture may have to be created eliminating hot season grazing.

4.2.14.3 Sheep Shed Coulee Allotment

The Sheep Shed Coulee allotment has a riparian exclosure proposed for polygons 1603-4. Rapid improvement to riparian vegetation would occur in this polygon. The exclosure would be constructed with visually compatible fence posts to lessen the impacts to visual resources. Alternate turn in locations may help polygons 1562, 1592-8 and 1637 reach PFC. However, they may not show improvement since no new additional water is proposed in the uplands. Livestock would still concentrate during the hot season at these riparian areas. Improvement to riparian resources may happen only when the Sheep Shed Coulee pasture is cross fenced, upland water developed, and a rest-rotation or deferred rotation system is implemented.

4.2.14.4 Pass Coulee Allotment

The proposed reduction of AUMs and later turn-in date for livestock in the Pass Coulee allotment would not result in any measurable improvement on Flat Creek. The creek is the only water source for livestock and hot season grazing would still continue. Two riparian exclosures are proposed to protect the riparian resources of Flat Creek on public land within the allotment. They would be built by BLM and maintained by the permittee. No grazing is allowed inside the exclosures. Once the exclosures are completed, the creek would rapidly improve toward PFC.

4.2.14.5 Deadman Coulee Allotment

The proposed four pasture rotation system should help Fahlgren Coulee establish an upward trend toward PFC. If the potential well and stock tanks should become a reality, Fahlgren Coulee would improve faster than with just the four pasture rotation. The placement of the tanks on the uplands would reduce current livestock use on Fahlgren Coulee and Flat Creek. These riparian areas are expected to start an upward trend once the well and tanks are functional.

4.2.14.6 Starve Out Flats Allotment

The reach of Fahlgren Coulee on public land in this allotment was not assessed for riparian health. A monitoring site would be established in 2002. If the health is less than PFC, changes would be made in the grazing system. Possible changes include, but are not limited to, fencing a riparian pasture and eliminating hot season grazing, or developing off site water in the uplands.

4.2.14.7 PN Allotments

Riparian vegetation in the PN allotment is anticipated to improve as a result of the proposed grazing system changes. Riparian polygons 1680-2 and 1754-6 would show slight improvement as seasons and numbers of livestock are managed although livestock grazing is not a major factor currently affecting riparian health. Riparian polygons 1884-92, 1931-2, and 1936-9 would remain in PFC since they would receive winter use only. The Dog Creek riparian polygons are expected to show significant improvement as long as they receive winter use only. Hot season grazing may be granted to the permittee as an emergency measure once the existing cottonwood and willow seedlings reach six foot in height. This "emergency use" would occur no more than one year in three and no two years consecutively.

4.2.14.8 Iron City Allotment

This allotment would receive two riparian exclosures at riparian polygons 1974-7 and 1983-92. These exclosures would be constructed with visually compatible fence posts to lessen the impacts to visual resources. These riparian areas will show rapid improvement once the exclosures are completed.

4.2.14.9 Mattuschek and River Allotments

Proposed projects for the Mattuschek and River allotments include repairing a water saver (River allotment) and constructing a new water saver (Mattuschek allotment). The repaired water saver would relieve grazing pressure on polygons 2016-20. They may improve slightly although livestock grazing is not currently a major factor affecting their health rating. The proposed action allows the permittee to graze the remaining polygons 2037-8, 2044-5, 2048-52, 2055-6, 2060-2, 2064, 2067-8, 2080-3, 2091 and 2093-5 in the spring and again in the fall of the same year. These polygons are currently being grazed once a year in the fall and are meeting standards or making significant progress toward PFC. They may not meet standards under a twice through grazing system. The only livestock water available in the pasture where these polygons are located is the Missouri River. Allowing grazing in the spring and fall means livestock will be concentrated on the riparian areas twice a year. It is not the length of time cattle are in the pasture, but the amount of time they are actually in the riparian area of that pasture that determines the amount of grazing impact (MT Watershed Coor. Council, 1999). If these polygons fail to meet standards in the future, this pasture would have to revert to a fall only grazing system.

4.2.15 Wilderness

Same as Alternative 1.

4.2.16 Wild and Scenic Rivers

Some wild characteristics would be lost to visitors on the river seeking a completely pristine experience when encountering fences *extending* into the river. *To some, the visual intrusion of fence exclosures* would be *mitigated* by the fact that cattle would not be able to get into *these* camping areas.

There are campgrounds, such as Eagle Creek and others that have no exclosures. At certain times of year cattle are going to congregate in these areas. Many of these campsites are very popular and become overcrowded with river floaters, as well. The conflict is being dealt with in two different ways. First, the University of Montana is developing a campsite monitoring system. This system will look at a number different aspects of physical, social, and managerial impacts to both developed and dispersed campsites along the river. Second, the Resource Advisory Council subgroup, in cooperation with the BLM, is currently developing standards and indicators for an Upper Missouri River Limits of Acceptable Change, (LAC) process to determine when these impacts would be extensive enough to potentially close a site for a period of time to let it rehabilitate. These issues will, however, be addressed at a later date in the Monument RMP process.

4.2.17 Economics

Overall, there would be little impact to economic activity in the planning area from implementation of the proposed action. Most of the 20 permittees in the planning area would be unaffected by the proposed allotment management plans. Of those operations which would be affected, proposed management changes could include construction of range improvements, changes in grazing systems, changes in turn-out dates or locations, and/or reductions in AUMs.

Two permittees would receive adjustments in AUMs. The total decrease would be 180 AUMs of the total 5,958 current AUMs across the planning area. The Dammel allotment would be adjusted from 138 AUMs to 66 AUMs (-72 AUMs). The PN Ranch would be adjusted from 1,874 AUMs to 1,766 AUMs (-108 AUMs). Most of the PN AUMs would be placed in non-use status as a result of the permittee's decision to utilize the CRP program. These AUMs would be placed back in active use status when the CRP contract expires or if public land is fenced separate from private land as described in the proposed action. A third allotment, Pass Coulee, would be reduced from 157 AUMs to 115 AUMs (-42 AUMs), but this reduction is an implementation of a previous decision made by BLM in 1981, and is not counted as part of the reductions proposed in this alternative.

4.2.17.1 Dammel Allotment

The Dammel allotment is part of a farming operation which also includes some cattle grazing. Overall, the operator has a relatively low dependence on BLM forage to run the entire operation, so the loss of 72 AUMs would not likely be a major impact.

4.2.17.2 Pass Coulee Allotment

For the Pass Coulee allotment, the implementation of the previous grazing decision to reduce AUMs from 157 to 115 may have a relatively large impact on the operator, who has a small operation with high dependence on BLM forage. In order to maintain cattle numbers, the operator would have to find additional forage elsewhere and/or provide supplemental feeding. Either of these options would be more costly than BLM forage.

4.2.17.3 PN Allotment

The PN Ranch is primarily a cattle operation with some farming. Overall, the operator has a moderate dependence on BLM forage to run the entire operation. Because the number of acres of grazable privately-owned base property has declined due to CRP, AUMs for the public land portion of the operation would be reduced to bring the public-land carrying capacity in line with the availability of grazable private-land base property. There is likely to be an small economic impact to the operator, however this would be more than offset by the increase in revenue through the CRP program.

The loss of 180 AUMs would reduce economic activity an estimated $5,100 and by less than one job, assuming permittees do not obtain alternative forage elsewhere (USDI, BLM, 1996). This would be a minor impact. In addition, range improvements and other management changes proposed for other allotments may result in short-term or one-time increased costs to some operators. For example, riparian exclosures, chiseling, fence repair, and water savers may impose additional costs to those permittees as could changes in turn-out dates or locations. However, these impacts would be small.

Overall, the proposed management changes are expected to improve the quality of upland and riparian conditions and, in turn, the long-term sustainability of forage resources for livestock. Recreation and wildlife resources, too, would be improved as upland and riparian conditions improve.

4.2.18 Sociology

Some operations would have changes in how they manage their operation and/or decreases in AUMs. All ranchers whose operations would be changed under this plan have been involved in consultations about their operations and the ability to adapt to these changes. Changes in how ranches are managed or losses in ranch income could result in declines in the social well being of affected permittees and their families. These potential impacts are discussed in more detail in the "Draft Montana Standards for Rangeland Health and Guidelines for Livestock Grazing Management EIS (page 70)" (USDI, BLM, 1996).

4.3 Alternative 3 Impacts - No Livestock Grazing

4.3.1 Coniferous Forest

Removal of livestock grazing would have no impact on coniferous forests.

4.3.2 Rangelands

Under this alternative livestock grazing would cease as existing permits and leases expire. In the short term (5-10 years), upland areas meeting standards would continue to meet standards and upland areas not meeting standards such as PN Sag, Pass Coulee, and portions of Maltuschek allotment would gradually improve and meet standards. Those areas not meeting standards for other reasons would likely remain static in the short term but slowly recover. In the long term, some of the uplands in this watershed may be negatively affected by lack of grazing. In addition, an increased potential for spread of wildfires would occur as a result of the build up of fine fuels. There is no anticipated increase in the number of wildland fires but the fires that do occur would spread faster and burn more intensely. More rapid spread and higher intensity would make these fires harder to control with the potential to escape initial attack and become large and destructive.

Grazing serves as an important mechanism for the cycling of carbon (plant material) in uplands. If domestic grazing activity ceased, an excess build up of litter and mulch in the more productive upland areas would, in the absence of fire, result in a poorly functioning carbon cycle after a period of 10-15 years. On some sites, mulch build up would reach a point that sunlight would not be able to reach growing points and leaves of grasses. This would cause a decrease in vigor of perennial grasses, especially perennial bunch grasses. In some cases, vegetation composition may shift from high seral to mid or early seral species from lack of grazing. Grazing by possible increased wildlife populations could offset this condition, but increased use of fire may be needed to stimulate vigor.

4.3.3 Soils

Grazing would slow the rate of nutrient cycling from plant to soil because livestock would not be present to consume plants and cycle nutrients back into the soil, however soils would remain stable and erosion levels minimal.

4.3.4 Weeds

Implementation of Alternative 3 would eliminate the cooperative weed control agreements between the BLM and grazing permittees. Weed infestations on uplands could increase due to the loss of permittee involvement with BLM weed control efforts. Conversely, the absence of domestic livestock on uplands could decrease the risk of noxious weed spread. Weeds can be relocated by livestock through physical movement of seeds and reproductive vegetation, and the digestive tract.

4.3.5 Recreation

Recreation opportunities would not be increased under this alternative, but would be expected to improve to a certain degree, although this is subjective and dependent on the visitor's perceptions. This improvement would primarily benefit the river floaters who are sometimes irritated by seeing cattle and fences along the river in riparian areas.

4.3.6 VRM

No livestock grazing in the planning area would preclude the necessity to construct water developments, therefore maintaining the viewshed.

4.3.7 OHV

Same as Alternative 1 and Proposed Action/Preferred Alternative.

4.3.8 Wildlife Resources

Under this alternative livestock grazing would not be reauthorized as the 10 years grazing permits expire. The range heath assessments in this watershed indicated that 21 of the 41 (51%) of the riparian polygons and 6 of the 45 (13%) of the upland health transects that did not meet standards (PFC) could be attributed on a large part to livestock grazing. There are 26 grazing allotments in the watershed. Eleven allotments (42%) had at least one riparian polygon and six allotments (23%) had at least one upland health transect that rate less than PFC and could be at least partially contributed to livestock grazing. As the permits expire the range health on these degraded allotments would return to functioning condition. The renewed vigor in the upland and riparian vegetation in the previously unhealthy areas would provide additional vegetative diversity, structure, ground cover and forage for wildlife and overall watershed health.

4.3.9 Wildland Fire Management

Same as Alternative 1.

4.3.10 Prescribed Fire

Same as Alternative 1.

4.3.11 Cultural Resources

Same as Alternative 2.

4.3.12 Surface Water

Vegetation in the riparian areas would improve rapidly as a result of livestock removal. Stubble height would increase as would ground cover, trapping more sediment, building and protecting stream banks and reducing erosion. The amount of non-point source pollution (mainly sediment) from public lands reaching the Missouri River would be reduced thereby complying with the TMDL process.

4.3.13 Ground Water

Ground water resources would not be impacted by this alternative.

4.3.14 Riparian

As current grazing permits expire they would not be renewed. Grazing on public lands in this watershed would cease within ten years. Public lands would experience increased plant density, diversity, and vigor as livestock grazing is removed, especially on the riparian areas where livestock is the major factor affecting riparian health. These riparian areas would experience rapid improvement once livestock grazing is eliminated.

4.3.15 Wilderness

The two small reservoirs just inside the Dog Creek WSA would not be needed under this alternative and would *be allowed to* naturally deteriorate. Wildlife, primarily bighorn sheep and deer *presently* utilize the reservoirs for water.

Cattle grazing is minimal on the uplands in the WSA, and therefore this alternative would do little to improve the range within its boundary.

4.3.16 Wild and Scenic Rivers

Some river recreation visitors would feel a benefit under the no livestock grazing alternative due to *the landscape's aesthetic change to* a more pristine or natural experience.

4.3.17 Economics

Under the No Grazing alternative, there would be a gradual decline in livestock production from public lands as permits and leases expire. Overall, there would be a decrease of 5,958 AUMs available to the permittees in the watershed. To the regional economy, this represents a loss of about $167,450 annually in economic activity and about six jobs, not including permittees' ranching jobs. The total loss in economic activity may be greater if permittees cannot compensate for the loss of public land AUMs and must reduce their herd sizes.

The permittees in the watershed are a diverse group with respect to types of operations and level of dependency on public lands to run their operations. Some operators have a relatively low dependence on public land grazing to run their cattle operations. They also have farming operations. These operators would likely have more flexibility to adjust their operations and reduce their overall impacts. Other operators have primarily or solely livestock operations, and some of these operators have a moderate to high dependence on public lands. The higher the dependence on public land and the less diversity of operations permittees have, the greater the impact would be.

To avoid a livestock trespass situation, operators would have to fence their cattle off public land. This would be an additional cost to them. The highly intermingled property status in this watershed would require hundreds of miles of fences to separate. In addition, much of the land in the planning area is found on very steep terrain, installing fences directly on property lines is difficult and in some cases impossible.

4.3.18 Sociology

Loss of BLM forage could result in declines in the social well being of affected permittees and their families. Small operations that are highly dependent on public grazing lands are more likely to be affected. About one-third of the operations are moderately to highly dependent upon BLM grazing to run their operation. These potential effects are discussed in detail in the "Draft Prairie Potholes Vegetation Allocation EIS (page 122)" (USDI; BLM, 1981).

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5.0 Consultation and Coordination

The BLM interdisciplinary team which prepared the Upper Missouri Watershed Environmental Assessment:

- Joe Frazier, Hydrologist (Team Leader)
- Dan Frank, Cartographic Technician
- Sharon Gregory, Range Technician
- Stanley Jaynes, Archaeologist
- Loretta Park, Realty Specialist
- Kaylene Patten, Facilitator
- Fred Roberts, Wildlife Biologist
- Mitch Maycox, Fire Management Officer
- Joan Trent, Sociologist
- Wendy Favinger, Economist
- Rod Sanders, Recreation Specialist
- Lowell Hassler, Natural Resource Specialist (Weeds)
- Mitch Iverson, Rangeland Management Specialist
- Terry Holst, Rangeland Management Specialist

Other BLM personnel who provided input:

- Craig Flentie, Public Affairs Specialist
- Jerry Majerus, NEPA Coordinator
- Chuck Otto, Assistant Field Manager (Renewable and Nonrenewable Resources)
- Gary Warfield, GIS Coordinator
- JoLyn Goss, Office Assistant
- Kay Haight, Office Assistant
- Vinita Shea, Rangeland Management Specialist
- Mike Barrick, Range Technician

Permittees and landowners that participated in the planning process:

- Joy Crawford
- Harold Goldhahn
- Jack Arnst
- Mark Lund
- Louise Mittal
- Oscar Trunk
- Mark Goldhahn
- Gary Pimperton
- Bob Pimperton
- Leroy Hill
- Charles Pierson
- Ron Hall
- Nick Econom
- Keith Meckling
- Mike Schmitt

- Matt & Karla Knox
- Wilbur Fultz

Other agency personnel that participated in the planning process:

- Keith Robertson, USDA - Natural Resources and Conservation Service
- Tom Stivers, Montana Department of Fish, Wildlife and Parks
- Ann Tewes, Montana Department of Fish, Wildlife and Parks
- Bill Gardner, Montana Department of Fish, Wildlife and Parks
- Barny Smith, Montana Department of State Lands

Letters inviting 164 individuals, organizations and agencies were mailed two weeks prior to the public meetings of November 20, 2000, April 9, 2001 and December 18, 2001. This mailing list is on file at the BLM Lewistown Field Office.

6.0 Comments and Responses

6.1 Summary of Public Comments

The Draft EA was released for public comment in December 2001. The 105-day comment period ended April 5, 2002. Five public meetings were conducted between November 2000 and March 2002. Eighty letters were received containing 134 separate comments. Two tables are provided on the following pages. The first lists the letters as they were received in this office. The table also lists the name of the commenter and the comment code. The second table lists the comment code from Table #1, the letter number, and the comment/response. The reader should look in Table #1 for their name, then obtain the comment code(s). These comment codes can then be found in Table #2 with the corresponding comment and response.

Changes to the Draft EA made as a result of these comments appear as italicized text in Chapters 1 through 4.

Comments on the Draft EA were considered and are important to the decision-makers because they provide information on the opinions and preferences of the public. Letters 1, 3, 4, 11, 16, 17, 21, 28, 29, 59, 61 and 73 were reviewed, but the comments, although informative, did not require a response.

Table #1
List of All Comment Letters

Letter No.	Name	Organization/Business	Comment Code Number(s)
1	Bob Doerk		none
2	Alan Rollo		A1, A2, J1
3	Joe Gutkoski	Montana River Action	none
4	Alan Rollo		none
5	Bill Marsik		H1, H2
6	Matt Knox		A3, I1
7	Jack Arnst		A4
8	Ralph Rogers		E1
9	Dyrck Van Hyning		A5, B1, B2, B3, C1
10	Ann Tews	MT Fish, Wildlife & Parks	D1
11	Helen Fultz		none
12	Tom Fultz		C2, H3
13	Matt Knox		C3, C4, C5

Letter No.	Name	Organization/Business	Comment Code Number(s)
14	Tom France	National Wildlife Federation	A6
15	Barny Smith	MT Dept Natural Resources & Conservation	A7, A8, D4, I2, I3
16	Jerry Levandowski	MT Trail Riders Assn.	none
17	Tom Dammel		none
18	Steve Pilcher	MT Stockgrowers Assn.	A6, A8, B5, H3
18	Matt Knox		A6, A8, B5, H3
18	Tom Fultz		A6, A8, B5, H3
19	Donald Hicks		C2, C6
20	Jeanne Bronec		A9, A10, A11, B6, H1, J2
21	Dan Bennett		none
22	Dyrck Van Hyning		A12, A13, A14, B3, B7, B8, B9, B10, C7, F1, H1
23	Sen. Conrad Burns	U. S. Senate	A6, A15
24	Fergus & Chouteau Counties	Fergus & Chouteau County Commissioners	A8, A16, A17, A18, A19, A20, B11, C3
25	Fergus County	Fergus County Commissioners	A8, A18, A26, B11, C9, G1
26	Joy Crawford		A8
27	Gladys Walling		B11, B12, C2, E2
28	Doris Knox		none
29	Sierra Times		none
30	Mrs. R. B. Roach		A21
31	Jo Ann Roach		A21
32	Franklin Carter		A22
33	Louise Mittal		B11, B13, B14, E11, I4
34	Lyman Bedford	Mcquaid, Metzler, Bedford & Van Zandt Law Firm	A18, A23, A24, A25, A26, A27, A42, B3, B15, C11, C12, C13, C14
35	William Riley	Big Bend Economic Dev. Council	A6
36	Tom France	National Wildlife Federation	A28, C15, C16, C17, D3, D4, E3, E4, E5, E12, H4

Letter No.	Name	Organization/Business	Comment Code Number(s)
37	Rachel Thomas		A3, A6, A8, A29, A30, B13, B17, F2, G1
38	Ric Frost	Policy Analyst, New Mexico State University	A3, A6, A8, A22, A29, A30, B13, B17, F2, G1
39	Congressman Denny Rehberg	U. S. Congress	A6, A15
40	Caren Cowan	New Mexico Cattle Growers Assn.	A3, A6, A8, A22, A29, A30, B13, B17, F2, G1
41	Mike Casabonne	New Mexico Public Lands Council	A3, A6, A8, A22, A29, A30, B13, B17, F2, G1
42	Tom Runyan	New Mexico Wool Growers, Inc.	A3, A6, A8, A22, A29, A30, B13, B17, F2, G1
43	Matt Knox, Charlie Pierson		B3, B24, B25, B27, C10, C19, D10, G1
44	Helen Carr		A6, A22
45	Bonnie McLane		A6, A22
46	Elaine Smith		A3, A6, A8, A29, A30, B13, B17, F2, G1
47	Margene Eiguren		A3, A6, A8, A29, A30, B13, B17, F2, G1
48	Gail Skeen		A22
49	Rep. Aubyn Curtiss	Representative, HD 81	A15, A22, A23, A26, G4, H1
50	Larry Copenhaver	MT Wildlife Federation	C18, D6, E6
51	Gerry Jennings	MT Wilderness Assn, Island Range Chapter	A12, B18, D9, F1, J3
52	Susan Riley	Columbia Basin Environmental Council	A6
53	Robert Lonn	NW Council of Governments & Associates	A6
54	Patrick Bronec		A10, A26, B3, B12, B19, B20, B21, C14, H3
55	Ron Poertner	Missouri River Stewards	A25, A26, B12, B20, C13, C14, F1, F3
56	Sen. Ric Holden	Senator, SD 1	A6, A8, A22
57	Richard Anderson		D5

Letter No.	Name	Organization/Business	Comment Code Number(s)
58	Francis Auld	Confederated Salish & Kootenai Tribes	K1
59	Carl Seilstad	Fergus County Commissioner	none
60	Ron Poertner		A18, A24, A25, A26, A27, A31, A32, B3, B12, B15, B19, B20, C11, C12, C13, C14, D10, E7, F4
61	Arlo Skari		none
62	Oscar Trunk		B22, B26, C13, I5
63	Gov Judy Martz	Governor of Montana	G1
64	Edward Butcher	Senator, SD 47	A4, B23, E8
65	Trevis Butcher		A4, A23, B23, E8
66	Steven Knox		E2
67	Tom Walling		A33, B23, C2, D5, D11, E7
68	Karla Knox		A26, A32, B3, B24, B25, C6, C10, C11, C14, C19, C20, D2, E2, G1
69	Tony Jewett & Betsy Buffington	Northern Rockies Office, The Wilderness Society	A5, A12, A34, C1, E9, F5, H1
70	Dan Bennett		A34, G3
71	Ric Frost	Policy Analyst, New Mexico State University	A8, A18, A21, A22, A30, A31, A35, A36, A37, A38, A39, A40, B17, D7, G2, G4
72	Jay Bodner	MT Stockgrowers Assn.	A31, C6, G1, G2
73	Rep. John Witt	Representative, HD 89	none
74	Joy Crawford		A8, A41, B6, B16, B22, B26, C8, I3, I5
75	Mark Good	MT Wilderness Assn.	A12, A34
76	Caren Cowan	New Mexico Cattle Growers Assn.	A8, A30, A31, B13, B17, D7, G1, G2
77	Tom Runyan	New Mexico Wool Growers Assn.	A8, A30, A31, B13, B17, D7, G1, G2
78	Mike Casabonne	New Mexico Public Lands Council	A8, A30, A31, B13, B17, D7, G1, G2

Letter No.	Name	Organization/Business	Comment Code Number(s)
79	Rachel Thomas		A8, A30, A31, A35, A36, B13, D5, D7, G1, G2
80	Kristi DuBois	MT Fish, Wildlife & Parks	D8, E10

Table #2
Comments and Responses

Code No.	Letter No.	Comment and Response
A1	2	**Comment:** Stop calling this plan a "watershed." **Response:** The Lewistown Field Office is implementing Standards and Guidelines for all its grazing allotments on a watershed basis. Because of the large number of allotments, the Field Office was divided into smaller, more manageable sub-watersheds. BLM will continue to use the term "Watershed" in all its plan titles even though the planning area does not necessarily consist of an entire watershed. Also, the plan only deals with public land.
A2	2	**Comment:** Combine this plan with other local efforts. **Response:** This plan will comply with other ongoing plans and processes such as the statewide Total Maximum Daily Load process but will not be combined with other plans.
A3	6, 37, 38, 40, 41, 42, 46, 47	**Comment:** Is it true this plan will eliminate all grazing from the watershed? **Response:** No. The proposed action actually renews grazing permits for 10 years for all allotments in the planning area.
A4	7, 64, 65, 9, 69	**Comment:** All state and private lands within the watershed planning area must be excluded from federal management plans. **Response:** The decisions in this plan apply only to public lands administered by BLM.
A5	9, 69	**Comment:** Use only native plants for restoration or revegetation. **Response:** Only plants native to the immediate locality will be used in the proposed chiseling project.

Code No.	Letter No.	Comment and Response
A6	14, 18, 23, 35, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 52, 53, 56	**Comment:** The comment period should be extended. **Response:** The comment period was extended from 30 days to 105 days.
A7	15	**Comment:** The "Consultation and Coordination" lists Keith Robertson as a DNRC employee. He works for NRCS. **Response:** The correction has been made.
A8	15, 18, 24, 25, 26, 37, 38, 40, 41, 42, 46, 47, 56, 71, 74, 76, 77, 78, 79	**Comment:** Many interested or affected parties were not notified about this watershed plan. **Response:** The mailing list for this watershed plan contained 186 names. Included were all grazing permittees within the watershed boundaries, various state, county, local, and federal agencies, tribes, and recreation, livestock, wildlife, and environmental groups. Grazing permittees received a total of 9 letters throughout the planning period (June 2000 to present) notifying them of BLM's intentions and meetings. All other parties on the mailing list received all but the first letter. Five public meetings were held between November 20, 2000 and March 21, 2002. Each grazing permittee was contacted by letter and/or phone and asked to participate in the upland health assessments. All on the mailing list were invited to a field trip explaining the riparian health assessment. The actual health assessment was conducted by a private contractor, and no members of the public were invited. Each grazing permittee who had significant riparian habitat was asked if they wanted to review the riparian health rating in the field. Each grazing allotment that did not meet standards was visited by BLM personnel with the permittee in the field where the problems were discussed and solutions solicited. All permittees who had changes proposed for their allotments received a copy of the draft plan. All other permittees in the watershed were notified copies of the draft were available at the public meetings or by request. Landowners and BLM permittees outside the watershed boundaries were notified of the plan through public notices in the local newspapers.
A9	20	**Comment:** The "No Grazing" Alternative should not have been considered. **Response:** The National Environmental Policy Act and national BLM policy requires each grazing environmental assessment to contain, at a minimum, the "no action" and the "no grazing" alternatives.

Code No.	Letter No.	Comment and Response
A10	20, 54	**Comment:** Local ranchers should have been involved in developing "Standards and Guidelines." **Response:** National BLM Standards and Guidelines were developed several years ago and had their own public participation process including public meetings held throughout central Montana. Local ranchers were represented on the RAC and the RAC subcommittee that adapted the national Standards and Guidelines to central Montana.
A11	20	**Comment:** It should be clearer that "management" only applies to public land. **Response:** Additional language has been added in Chapter 1, part 1.1.
A12	22, 51, 69, 75	**Comment:** The draft EA does not identify lands within the Upper Missouri River Breaks National Monument. **Response:** The maps M1,M2, M3 and M12 now include the Monument boundaries.
A13	22	**Comment:** This EA should not hinder future induction of this area into Wilderness designation. **Response:** There is nothing in the proposed action that would impact wilderness characteristics. This EA is concerned with livestock grazing and discusses the means for achieving standards on each allotment. Issues such as wilderness, roads, recreation, view sheds, etc., have been deferred to the Upper Missouri River Breaks National Monument Resource Management Plan.
A14	22	**Comment:** This EA is not consistent with the Interim Monument Guidance for firewood gathering. **Response:** The EA has been changed to reflect firewood gathering is allowed only outside the Monument boundaries.
A15	23, 39, 49	**Comment:** Request an additional public meeting be held during the comment period. **Response:** Two additional public meetings were held during the comment period at Lewistown and Ft. Benton.
A16	24	**Comment:** No reference was made to the Chouteau or Fergus County Land Use Plans. **Response:** This EA concerns only public lands administered by the BLM and was reviewed alongside county plans. No conflicts were noted.

Code No.	Letter No.	Comment and Response
A17	24	**Comment:** There are numerous references to publications not widely available to the public. **Response:** All referenced documents can be obtained by request from the BLM Lewistown Field Office.
A18	24, 25, 34, 60, 71	**Comment:** Statements are not referenced to data sources. **Response:** The reference section of the EA (Appendix L) has been expanded.
A19	24	**Comment:** This EA is the first of many. **Response:** This EA is the fifth Environmental Assessment concerning livestock grazing in the Lewistown Field Office south of the Missouri River. The other four completed plans were Woodhawk, Two Calf, Lower Crooked Creek, and Armells Creek. Nine more plans covering public lands south of the Missouri River will be completed over the next six years. See map M12.
A20	24	**Comment:** Minimum period of review for an EA **Response:** NEPA regulations do not require a comment period for an EA during the draft stage. It is Montana BLM policy to grant a 30 day comment period on a draft EA that potentially could cause public controversy.
A21	30, 31, 49, 71	**Comment:** This EA does not comply with Executive Order #12898 to grant a 60 day comment period and address environmental justice. **Response:** Section 4.0 of the EA states environmental justice was addressed and determined not to be affected by any alternative in the EA. The comment period for this EA was 105 days.
A22	32, 38, 40, 41, 42, 44, 45, 48, 49, 56	**Comment:** Executive Order 12866 requires a 60 day comment period for this EA. **Response:** Executive Order 12866 deals with creation of new regulations. This EA does not create new regulations. The comment period for this EA was 105 days.
A23	34, 41, 42, 49, 65	**Comment:** This EA results in the taking of private property rights. **Response:** This EA deals only with public lands administered by BLM. Private property rights are not affected. Grazing on public lands is a privilege, not a property right.

Code No.	Letter No.	Comment and Response
A24	34, 60	**Comment:** Why was the Upper Missouri watershed given a higher priority? **Response:** The Upper Missouri watershed was given elevated status due to the amount of public lands in the watershed that were also in the newly created Upper Missouri River Breaks National Monument. The BLM Lewistown Field Office decided to implement standards and guidelines on all grazing allotments within the monument boundaries before the RMP was written. Decisions made in this EA would then be brought forward into the monument plan and no further discussion on grazing would be necessary. In addition, the concern of hot season livestock grazing and cottonwood regeneration, floater-livestock conflicts and public scrutiny resulted in the elevated status.
A25	34, 55, 60	**Comment:** Why is BLM revising grazing management and what generated these changes? **Response:** The Taylor Grazing Act of 1934 was passed to regulate livestock grazing on public land, marking a trend toward increasing Federal involvement in rangeland management. Under the Act, specific parcels of the Federal range were allotted for grazing use. At the same time, efforts were started to bring livestock numbers into balance with the sustained productive capability of the range. In 1976 Congress passed the Federal Land Policy and Management Act (FLPMA). FLPMA recognized these lands were a valuable national resource, capable of providing for a variety of uses, and should be retained in federal ownership. In 1978, Congress went beyond FLPMA to focus attention on the Nation's rangeland by passing the Public Rangelands Improvement Act (PRIA). Through PRIA, Congress concluded the public rangelands were still producing below their potential and would remain so, or decline even further, under present levels of funding and management. Rangeland Reform of 1994 is designed to carry out the mandates of PRIA. The most effective way to address the challenge of restoring rangeland ecological condition is to manage the land in accordance with the principals of ecosystem management. To accomplish the restoration of ecological condition, Standards and Guidelines were developed for livestock grazing to provide a basis for making consistent decisions and to allow prompt and measurable progress in improving ecological conditions.

Code No.	Letter No.	Comment and Response
A26	25, 34, 49, 54, 55, 60, 68	**Comment**: Who developed Standards and Guidelines? How were RMP's amended to include Standards and Guidelines? Why is analysis needed for issuing new permits? **Response**: The BLM and the Forest Service developed Standards and Guidelines in response to Rangeland Reform (1994). These were to be implemented on public lands in each state unless the state developed their own Standards and Guidelines consistent with Rangeland Reform. In Montana, the public lands administered by BLM are divided into three districts; Butte, Lewistown, and Miles City. Separate Resource Advisory Councils (RAC) were formed consisting of members of the public for each district. The Lewistown RAC appointed a sub-committee composed of three local ranchers and a banker to develop the Standards and Guidelines that were more consistent with the range conditions of Central Montana than the national Standards. This sub-committee requested the assistance of the range science department at Montana State University and the Montana Extension Service in the development. Public meetings were then conducted in central Montana on the Standards and Guidelines. They were then reviewed by the entire RAC and BLM before being sent to the Secretary of Interior for final approval. The Lewistown RAC developed five Standards covering uplands, riparian areas, water quality, air quality, and habitat. Guidelines are just that, guidelines to help the grazing permittee meet the Standards. Guidelines are recommendations, not required actions. Each grazing allotment is required to meet Standards. If Standards are not being met, the allotment must be making significant progress toward meeting them. The Lewistown Field Office decided to implement Standards and Guidelines on a watershed basis. All the grazing allotments within a defined watershed will be assessed at one time and actions taken to correct those allotments not meeting Standards. At the end of the watershed plan, all grazing allotments in that watershed will receive new 10 year grazing permits. This process will insure that only about 10 % of the 680 grazing allotments in the Lewistown Field Office will be due for renewal in any one year. This will ensure efficiency in permit renewal.
A27	34, 60	**Comment**: Issues and objectives should not be in Chapter 1. **Response**: NEPA does not require a specific format for EAs. This EA uses the commonly accepted format for writing EAs.
A28	36	**Comment**: This is an unbalanced range of alternatives. **Response**: NEPA requires, at a minimum, a "no action" and a "no grazing" alternative when addressing grazing decisions. This EA added a third alternative "Proposed Actions." No further alternatives were considered since the topography of the Missouri River Breaks limits options available to managers (fencing, water developments, season of use, etc.).

Code No.	Letter No.	Comment and Response
A29	37, 38, 40, 41, 42, 46, 47	**Comment:** Was public notice made of this action? **Response:** Yes. Public notice was printed in the local newspapers announcing the beginning of this EA and before each public meeting. All grazing permittees in the watershed were kept informed via nine separate letters and additionally by personal phone calls.
A30	37, 38, 40, 41, 42, 46, 47, 71, 76, 77, 78, 79	**Comment:** Was it published in the Federal Register? **Response:** No, notification of EAs are not required to be published in the Federal Register.
A31	60, 71, 72, 76, 77, 78, 79	**Comment:** This is a major Federal Action and requires an EIS. The Comb Wash decision needs to be mentioned. An economic analysis is required. **Response:** The Comb Wash decision decided that BLM did not do adequate NEPA analysis before issuing new grazing permits. Due to that decision, BLM is now insuring adequate NEPA analysis is completed before issuing new grazing permits. An EA is an adequate decision document if the decision makers decide on a Finding of No Significant Impact (FONSI) as a result of the analysis presented in the EA. If significant impacts are found, an EIS is required. The EA process requires the preparers to complete environmental, technical and economic analysis of the alternatives.
A32	60, 68	**Comment:** Reference Montana DEQ for impaired stream status. **Response:** The reference has been added.
A33	67	**Comment:** Control of water rights needs to be addressed. **Response:** Rights for water sources on public lands will continue to be held by the Federal Government. Rights for water developments on public lands that were jointly funded by the BLM and the permittee as well as those funded entirely by the permittee will be co-held by both parties.
A34	69, 70, 75	**Comment:** This EA conflicts with the Upper Missouri River Breaks Monument Plan. **Response:** This EA is considered to be consistent with the goals of the Monument Proclamation as stated in the State Director's Interim Guidance for managing the Upper Missouri River Breaks Nation Monument (June, 2001).

Code No.	Letter No.	Comment and Response
A35	71, 79	**Comment**: This document is not in compliance with the CEQ memo on cooperating agencies. **Reference**: A cooperating agency assists the lead Federal agency in developing the environmental document. The Council on Environmental quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) define a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Another agency or local government entity with such qualifications may become a cooperating agency on an environmental document by agreement with the lead Federal agency. The benefits of granting cooperating agency status may include: increasing the efficiency of the NEPA process, maximizing coordination among Federal, State, local and Tribal government agencies, and eliminating duplication between Federal and State/local procedures. Responsibilities of a cooperating agency include development of information for the environmental document, preparation of portions of the analysis, commitment of staff time to the lead agencies' interdisciplinary team, and expenditure of its own funds to support the effort. During preparation of the Upper Missouri Watershed Plan the BLM coordinated with other Federal, State, and local agencies and several were directly involved in the process by attending meetings and commenting on the document. This is a normal process during preparation of a watershed plan regardless of cooperating agency status. Since the watershed planning process already involved other agencies, the BLM did not believe the process would benefit from formal designation of other Federal, State, or local governments as a cooperating agency.
A36	71, 79	**Comment**: This document does not comply with Public Law 104-121. **Response**: PL 104-121, "Small Business Regulatory Enforcement Fairness Act" deals with Federal regulations governing Small Businesses. This EA does not create nor amend Federal regulations.
A37	71	**Comment**: This document does not comply with EO 12630. **Response**: This EA does not interfere with protected property rights.
A38	71	**Comment**: This EA does not comply with EO 12988. **Response**: EO 12988 "Civil Justice Reform" concerns improving access to justice and provides guidelines to promote just and efficient civil litigation. This EA does not interfere with the civil justice process. An appeal and protest period will occur after the final is completed.
A39	71	**Comment**: This document does not comply with EO 13211. **Response**: EO 13211 concerns regulations that significantly affect energy supply, distribution, or use. This EA was reviewed and considered to be in compliance with the President's energy policy.

Code No.	Letter No.	Comment and Response
A40	71	**Comment:** This EA does not comply with PL 104-121, Sec 212. **Response:** This EA does not create or amend rules or regulations. See **Response A36.**
A41	74	**Comment:** What changes were made to the Draft after the comment period? **Response:** Changes appear in italics in Chapters 1 through 4.
A42	34	**Comment:** It appears ranchers are being set up to restore range lands, air and water quality standards in the next 10 years or lose their grazing privileges. **Response:** Permittees are required to meet Standards. If the allotment is rated at less than proper functioning condition due to livestock grazing, it is the responsibility of the permittee to take corrective actions that will make significant progress toward proper functioning condition. It is not the goal of BLM to retire grazing privileges but rather to take corrective actions that will allow continued livestock grazing. Refusal by the permittee to take these corrective actions could result in loss of grazing privileges.
B1	9	**Comment:** Request a reevaluation of all permittees. **Response:** Documentation of the needed requirements such as base property ownership, are kept in permit files which are maintained at the Lewistown Field Office. When ownership of base property status has changed, the permittee is required to notify the BLM. If questions about ownership of base property ownership or other requirements arise, the BLM completes a review of the file. Occasionally County records are searched to confirm land ownership. We also examine legal requirements through our watershed planning process. At this time we feel our permittees are being evaluated on an adequate basis.
B2	9	**Comment:** Letters should be sent to all permittees warning of drought conditions. **Response:** The Montana/Dakotas has a drought policy consistent with Bureau Policy that details specific actions to be taken during a drought. This policy is implemented on a year by year basis and no attempt is made to predict long-term management needs based on large scale predictions of possible climate changes over a long-term period. The drought policy requires continual assessment of the drought situation throughout the course of the year. If drought impacts are expected, letters to permittees are sent at the beginning of a drought year requesting them to reevaluate numbers, season of use and explore other alternatives. In some cases BLM may require temporary closure of an allotment because of drought, however most permittees voluntarily reduce numbers during drought.

Code No.	Letter No.	Comment and Response
B3	9, 22, 34, 43, 54, 60, 68	**Comment:** We have found flagrant violations of grazing indicating trespass livestock. To avoid trespass situations, ranchers should not be required to fence their cattle off of public land. This is contrary to accepted practices. **Response:** When BLM is aware of violations, appropriate action is taken. The BLM is not responsible for fencing cattle off of public lands. Montana laws related to fencing of private lands do not apply to public land in Federal ownership. The statement on page 65 about the need to fence livestock away from public land was made based on requirements found in the Code of Federal Regulations (CFR) related to prohibited acts. CFR 4140.1(b)(1) lists as a prohibited act: "allowing livestock or other privately owned or controlled animals to graze on or to be driven across public lands." Two court cases established that the United States does not have to fence its own land to protect them from trespass livestock: Shannon v. United States, 160 Fed. 870 (9th cir. 1908); and Fraser v. United States, 261 F.2d 282 (9th Cir. 1958).
B4	15	**Comment:** This plan has no authority over stocking rates on State lands. **Response:** Permitted use levels for public lands administered by the BLM will be set in the new ten year grazing permit. The Upper Missouri Watershed Plan does not set allocations for grazing use on State lands. The established carrying capacity of private, state and other lands are reviewed and considered as part of the overall grazing plan but no attempt has been made to adjudicate AUMs for State lands.
B5	18	**Comment:** How much grass is required to be left? **Response:** Stubble height and/or utilization monitoring is necessary to monitor the degree of livestock use. In order to maintain plant health, a minimum stubble height or utilization level is required. Stubble height is not used during periods of drought if grasses are not growing at or near potential. However utilization can be used even during periods of drought because the amount of forage removed is compared to the amount left.
B6	20, 74	**Comment:** How is the date to begin grazing set? **Response:** The grazing season and rotation of livestock has to be listed as a calender date because the season of use and timing of grazing use is important. Changes to annual rotation schedules can be made through consultation with the BLM, as long as the changes foster good range management.
B7	22	**Comment:** Evaluations of available forage needs to be done yearly. **Response:** The carrying capacity for allotments were set using range surveys. Unless problems were noted, these surveys are still used. An annual analysis of the carrying capacity for each allotment would be impossible to conduct because of time and staffing constraints.

Code No.	Letter No.	Comment and Response
B8	22	**Comment:** Pastures must have seasons of rest. **Response:** Many of the allotments have rotational type grazing systems that allow periodic rest during certain seasons. Although some of the smaller allotments are listed a year round use, these allotments are not normally grazed year round.
B9	22	**Comment:** Temporary feeding may only be authorized under emergency conditions. **Response:** The Code of Federal Regulations (CFR 4140.1(a) 3 prohibit supplemental feeding without authorization but do not preclude supplemental feeding when authorized. CFR 4130.3-2(c) provides authority for BLM to dictate how and when supplemental feeding can occur.
B10	22	**Comment:** Subleasing is not allowed. **Response:** There are no intentions in the Watershed plan to sublease permits or leases. However, a grazing permittee or leasee may lease his private base property and a grazing permit or lease be issued to that party based on control of the base property. This is an administrative action independent of the watershed planning process.
B11	24, 25, 27, 33	**Comment:** Drought is not mentioned as having an impact on vegetation. **Response:** The impacts of drought on vegetation are mentioned in Sections 2.2.1.8, 2.2.1.17 and 3.5. The consideration of drought impacts are specifically mentioned in Section 3.5. All studies were conducted with an understanding of the drought conditions present. Drought effects to flow and riparian sites are described in Section 3.15. Upland sites that were not meeting standards were compared to similar sites under different management to discern the difference caused by drought verses management.
B12	27, 54, 55, 60	**Comment:** It is unfair to give livestock 40% of the forage and wildlife 60%. **Response:** Allocation of forage is necessary to balance the needs between wildlife, livestock, and the need to maintain ground cover for soil protection, livestock and wildlife. Carrying capacities are set with an allowance for soil protection, livestock and wildlife. Maintaining utilization and stubble height limits insures that this balance is maintained. The BLM must manage for multiple use and allocating forage for different resources is part of multiple use management. These allocations were made in the Missouri Breaks Grazing EIS and carried forward into the Judith Valley Phillips Resource Management Plan (JVP RMP). This watershed plan was written to implement the JVP RMP.

Code No.	Letter No.	Comment and Response
B13	33, 37, 38, 40, 41, 42, 46, 47, 76, 77, 78, 79	**Comment:** What type of monitoring has BLM accomplished to determine the range conditions? **Response:** Three methods were used to evaluate rangeland health: ecological site index, rangeland health indicators, and soil surface factors. Study methods are described in Section 3.5. Results of the studies are shown in Appendix D. The study methods were not based on a study in Oregon.
B14	33	**Comment:** Our allotment recommendation was made by fence line contrasts. **Response:** Comparison of pastures was done to compare different responses to management. The recommendation was not based strictly on this comparison but on data gathered from the range assessment and an assessment of management needs.
B15	34, 60	**Comment:** Page 68. The BLM has provided two different handouts to ranchers about the RAC guidelines, both are different. **Response:** The guidelines found in the Watershed plan were based on the guidelines developed by the RAC. The guidelines developed by the RAC are very generic and broad. BLM took these guidelines and narrowed them down to meet the specific needs of management in this watershed.
B16	74	**Comment:** Compensation for blue gramma/club moss sites. **Response:** The chiseling project will not result in a reduction of AUMs. No compensation for the loss of grazing while this area is rested is justified.
B17	37, 38, 40, 41, 42, 46, 47, 71, 76, 77, 78	**Comment:** What are the range conditions of the allotments? **Response:** Study methods are described in Section 3.5. The results of the monitoring and assessments are shown in the document in Appendix D. The specialists conducting the range assessments and monitoring were Rangeland Management Specialists from the Lewistown Field Office. Monitoring frequency varies depending on conditions on the allotment.
B18	51	**Comment:** If a rancher increased the size of his animals, he has in effect increased the size of his herd. This change needs to be addressed. **Response:** Increases in forage consumption would show up as an increase in utilization. Range assessments in this watershed found utilization levels were not a problem on most allotments. In a few isolated cases, adjustments to stocking rates were made as a result of high utilization or deficiencies in the original range surveys.

Code No.	Letter No.	Comment and Response
B19	54, 60	**Comment**: The plan does not adequately address the impact of uses other than cattle. **Response**: Cattle grazing, as with any activity must be assessed with a hard look as required by regulations. For this reason, the environmental analysis takes a critical look at grazing, however not all problems are attributed to livestock grazing. Both positive and negative impacts of grazing are described in the document. Other uses such as off highway vehicles and recreation will be analyzed in the upcoming Monument RMP.
B20	54, 55, 60	**Comment:** The 4 inch stubble height needs explanation. **Response:** The 4 inch stubble height or 50% utilization is based on studies that demonstrate greater forage production of grasses grazed at moderate levels. Three studies that validate the use of a 50% utilization limit are: 1) Researchers Van Pollen and Lacey 1979 reviewed numerous studies on stocking rate, utilization and forage production and concluded that much higher forage production was possible with moderate levels (40-60%) of utilization. 2) Based on their range research, Troxel and White 1989 concluded that 50% of forage must remain for soil protection and future forage production. 3) As shown in the publication: "Grass, the Stockmans Crop" by Harland Dietz, a comprehensive study of root growth found root growth stoppage of grass increases dramatically at levels above 50% utilization. Root growth is important for recovery of the plant following grazing. The stubble height requirement would not be used during drought periods if grasses are severely stunted by drought.
B21	54	**Comment:** A lot of areas are not capable of 12 inch sagebrush. **Response:** The requirement to manage for a minimum height of 12 inches for big sagebrush comes from the Judith Valley Phillips RMP. Areas that do not grow sagebrush to heights above 12 inches would be considered marginal sagebrush habitat and would not be measured.
B22	62, 74	**Comment:** The proposed plan to split the allotment with fences would also need a considerable amount of water development. **Response:** Water developments in the Sheep Shed Coulee allotment are marginally adequate to serve three pastures. If the allotment is split into three pastures in the future, development of water would still be considered. However BLM could only cost share the public land portions of water improvements. Water is present on Tonne and Able Place allotments as these allotments border the river, however it is recognized that additional water developments would improve livestock distribution from the river to uplands. Installations of water developments in Tonne and Able Place allotments were explored and not implemented because of the depth to the water table and cost. These allotments also lack suitable sites for construction of reservoirs.

Code No.	Letter No.	Comment and Response
B23	64, 65, 67, 71	**Comment:** The BLM does not address the implications of administering new ten year permits that will all come to maturity in the same year. **Response:** There is no implication in the plan that all permits in the Lewistown Field Office will come to maturity in one year. Under the watershed planning process, the same number of permits will be expiring. They will just be arranged to expire in a geographic pattern instead of expiring in a scattered pattern. An analysis of economic impacts was conducted as shown in Section 4.2.17. The BLM has authority to modify grazing permits at any time in order to meet resource objectives and insure conformance with standards and maintain rangeland health. Regulations that provide this authority are CFR 4110.3 (Terms and Conditions) and 4130.3 (changes in permitted use).
B24	43, 68	**Comment:** Should use permitted numbers of AUMs instead of actual numbers. **Response:** Comment noted. Plan was changed to reflect permitted numbers on rotations for Mattuschek and River allotments, Section 2.2.1.23 and Appendix B.
B25	43, 68	**Comment:** River "C" pasture should fall back to fall grazing if proposed action does not meet standards. **Response:** Commented noted. Plan was changed to reflect a change to fall grazing if proposed action does not meet standards, Section 2.2.1.23.
B26	62, 74	**Comment:** Why should the three allotments merge together? **Response:** These allotments are all managed together so they were merged together for administrative purposes. Authority for this action can be found under CFR 4110.2-4.
B27	43	**Comment:** Permittee does not want to see funce around 80 acre land parcel changed. **Response:** The management in the 80 holding pasture does not conform to BLM standards. BLM's intentions are to exchange this 80 acre parcel to the permittee. However, if the land remains in BLM ownership, management will need to be changed as described in Section 2.2.1.20.
C1	9, 69	**Comment:** BLM should prohibit hot season grazing in all riparian areas. **Response:** The proposed action protects all significant reaches of riparian habitat from continual hot season grazing either by season of use or riparian exclosures.
C2	12, 19, 27, 28, 67	**Comment:** What about damage to riparian areas other than by livestock? **Response:** Studies by the Montana Riparian Association, BLM, and USGS show that impacts of flow regulation and livestock grazing are the two major causes for decline in cottonwood regeneration and riparian habitat degradation in this watershed. Other factors such as beaver, ice, scour by high water, drought, and disease do occur but are minor impacts in this watershed.

Code No.	Letter No.	Comment and Response
C3	13, 24	**Comment:** Why do range transects adjacent to riparian areas score higher in health? **Response:** Livestock tend to spend a disproportionate amount of time in the riparian zones as compared to the adjacent uplands, especially in the hot season (July, August, September). The topography next to riparian areas is typically steep and precludes off site water development. The source of livestock water and shade is the riparian zone.
C4	13	**Comment:** We did not see the riparian ratings ascribed to our allotments until the December 18th meeting. **Response:** Eight out of the twenty permittees in the watershed did not have significant riparian habitat in their allotments. BLM personnel met in the field with the other 12 permittees during the summer/fall of 2001 and discussed their riparian health ratings. The riparian health ratings were also shown at the April 2, 2001 and December 18, 2001 public meetings.
C5	13	**Comment:** The study was not done objectively. We ask for it to be redone. **Response:** This watershed plan was written according to NEPA and Federal guidelines. Upland and riparian health assessments were conducted using standard BLM procedures.
C6	19, 68, 72	**Comment:** Cottonwoods depend on a floodplain for establishment. Why are there more sites of replacement trees on private land than public? **Response:** The broad floodplains along streams on private lands are typically farmed leaving a narrow riparian strip adjacent to the stream where cottonwoods can grow and regenerate. These areas are not grazed until the crops are harvested and most riparian plants are dormant. On public lands there is no farming and the riparian areas have typically been grazed season long (May through October). See comment **C3**.
C7	22	**Comment:** As the river goes down, will exclosure fences be built the entire width of the river? **Response:** Exclosure fences need to be extended to a point where the water is deep and/or rapid enough to prevent livestock from going around the end. Typically that distance is 30 to 50 feet from the water's edge.
C8	74	**Comment:** When was the exclosure fence installed at Munro Island? **Response:** The fence was built in June 1999.
C9	25	**Comment:** Drought has played a role in cottonwood regeneration. **Response:** Riparian studies by various researchers indicate flow regulation of rivers is more of a factor impacting cottonwood regeneration than drought. Drought does affect regeneration but it is a minor impact in riparian areas.

Code No.	Letter No.	Comment and Response
C10	28, 43, 68	**Comment:** Riparian health assessments were done without permittee involvement. **Response:** The riparian health assessments on the Missouri River were done by a private contractor from a boat. The logistics of permittees accompanying the contractor would have been disruptive. BLM later held field trips with each permittee who had significant riparian habitat in his/her allotment. Permittees at that time were asked if they wanted to review the health rating. Some accepted the offer, most declined.
C11	28, 34, 60, 68	**Comment:** Riparian polygons rated as PFC were not listed. **Response:** Appendix E has been expanded to list all riparian health assessments.
C12	34, 60	**Comment:** It is unrealistic to assume that riparian areas can achieve PFC in 10 years. **Response:** BLM has documentation that several riparian areas have gone from NF to PFC in three years with a change in livestock grazing use. Other riparian areas have taken slightly longer, but none have taken more than five years to achieve PFC or make significant progress toward PFC.
C13	34, 55, 60, 62	**Comment:** What methods were used to assess riparian health. **Response:** The Montana Riparian and Wetland Association developed riparian health assessment techniques. These techniques are used by most Federal and State agencies in Montana and Idaho. Two forms are in use today, the "Large River Health Assessment" for rivers like the Missouri and the "Lotic Health Assessment" for smaller streams. Both forms look at the hydrology, vegetation and geology aspects of the stream. Both BLM personnel and private contractors have been involved in assessing the riparian health of streams in the watershed.

Code No.	Letter No.	Comment and Response
C14	34, 54, 55, 60, 68	**Comment:** How did BLM determine the 4 inch stubble height guideline for riparian areas? **Response:** Guidelines are tools managers can use to insure riparian areas achieve the Standard of reaching or making significant progress toward PFC. Guideline development was a cooperative effort of the following groups: Montana Stockgrowers, Montana Woolgrowers, Montana Farm Bureau, Animal and Range Science Department - Montana State University, Natural Resources Conservation Service, U.S. Forest Service, BLM, American Fisheries Society, Montana State Extension Service, and the Society for Range Management. A literature review of studies relating to riparian vegetation/health indicated stubble heights of 2 to 8 inches at the end of the growing season or grazing season (whichever occurs last) on key species be attained. Those key species are listed in Section 3.14 of this document. These species are all capable of attaining 12 inch plus growth even in drought years. BLM has been monitoring riparian areas on the Missouri River for eleven years and concluded that a 4 inch stubble height at the end of the year will allow grazing every year without damaging the plant. Lower stubble heights would require longer periods of rest before grazing could resume. In average precipitation years, most allotments will leave more than 4 inch stubble height based on 40% utilization by livestock.
C15	36	**Comment:** There is no clear alternative presented addressing cottonwood regeneration failure. **Response:** Cottonwood regeneration is not a requirement for riparian areas to meet Standards. BLM's goal is to manage for healthy riparian areas and if the proper sequence of events occurs (moisture, sediment deposition, seed sources, temperatures, etc.), cottonwood regeneration will occur. If this sequence of events does not occur, the riparian area could still be in PFC due to the presence of grasses, forbs and shrubs that protect the soil.
C16	36	**Comment:** The size and location of riparian exclosures along the Missouri River are not listed. **Response:** The location and size of the riparian exclosures are: 1. Senior's Reach, river mile 16.3, 30 acres 2. Wood's Bottom, river mile 19.5-21.0, 160 acres 3. Little Sandy, river mile 46.7, 25 acres 4. Munro Island, river mile 53.5, 20 acres 5. Sheepshed Coulee, river mile 69.2, 15 acres 6. Pablo, river mile 72.8, 15 acres 7. Sturgeon Island, river mile 119.4, 17 acres 8. Woodhawk, river mile 129.2-131.7, 320 acres 9. DeMarr's, river mile 138.1, 24 acres

Code No.	Letter No.	Comment and Response
C17	36	**Comment:** BLM should establish firm guidelines and a monitoring protocol for riparian areas. **Response:** Appendix F lists guidelines for stubble heights for riparian areas and Appendix D lists the monitoring schedule.
C18	50	**Comment:** Monitoring and implementation of present management plans is lacking. **Response:** We agree. The Lewistown Field Office was scheduled to develop allotment management plans on 266 allotments. As of 1996 only 42 had been completed due to lack of money and personnel. This new watershed based approach to grazing management should increase our efficiency, completing all remaining allotments by 2009. Monitoring will continue to be a problem due to current staffing levels, budget, and workloads. In all the watershed plans completed to date, BLM asked the permittees to voluntarily monitor on a yearly basis.
C19	43, 68	**Comment:** The document is slanted toward blaming livestock for resource problems. Not enough discussion on dams, beavers, etc. **Response:** The purpose of this document is to assess the impacts of livestock grazing on public lands and develop corrective actions for those allotments not meeting standards. New 10 year livestock grazing permits will be issued for all allotments in the watershed with the corrective actions as part of the permit. Refer to comment C2 and Chapter 3, Section 3.14 for a discussion of "other" impacts.
C20	68	**Comment:** What would happen to the mature stands of cottonwoods under current management. **Response:** Mature cottonwoods can generally be considered immune to the impacts of livestock grazing. They will live out their life cycle which ranges from 70 to 200 years. Flow regulation by upstream dams has reduced the amount of cottonwood regeneration. Where regeneration does occur, improper livestock grazing does have negative impacts with cottonwood succession and to the understory associated with mature cottonwood stands. If current management continues, mature cottonwood stands will disappear from the public lands simply because they are not being replaced by younger trees.
D1	10	**Comment:** Additional survey of aquatic resources is needed. **Response:** The BLM is aware of two tributaries to the Missouri River, Dog Creek and Flat Creek, that may have perennial flow and warrant additional aquatic surveys. Arrow Creek does not flow through BLM land within the boundaries of this planning area. Dog Creek was surveyed in May 2001 by Montana Fish Wildlife and Parks and BLM personnel. Samples from that survey were sent in for analysis and further identification. Later in the summer of 2001 Dog Creek dried up and had no surface water for the months of August and September. BLM has committed to doing a similar aquatic survey on Flat Creek, Section 3.10.3.

Code No.	Letter No.	Comment and Response
D2	28, 68	**Comment:** To link the pallid sturgeon with cattle grazing is an absolute contradiction. **Response:** All fish species that inhabit the Missouri River would benefit from increased woody debris and enhanced structure and cover on the river bottom. The link between pallid sturgeon well being and livestock grazing is simply the issue of grazing during the hot season and the lack of cottonwood establishment under those conditions. Refer to the discussion in the Proposed Action, PN Allotments, Section 4.2.8.5.
D3	36	**Comment:** How would expansion of prairie dogs onto public lands be accomplished? **Response:** Any expansion will be a natural process. BLM has no plans to translocate prairie dogs, begin a dusting program, or control prairie dog shooting other than the Montana Fish Wildlife and Parks regulation that restricts shooting of black-tailed prairie dogs on public lands from March through May.
D4	36	**Comment:** Suggest the definition of upland range health be changed to identify rangelands that include prairie dogs as being in a healthy condition. **Response:** The BLM does not plan to change the definition of upland range health. This request is beyond the scope of this EA. This definition was established in Interpreting Indicators of Rangeland Health, (USDI, BLM, 2000) and is being incorporated Bureau wide. Decisions made in Standards for Rangeland Health and Guidelines for Livestock Grazing Management EIS, USDI, BLM 1997, gives BLM the latitude to consider the habitat necessary to maintain bare ground species without lowering the overall standards rating of the grazing allotment. "BLM may allocate areas of public rangeland that would be managed to provide habitat for those native wildlife species requiring special ecosystem consideration, such as bare ground and/or low grass. Examples of these species include the mountain plover, black-footed ferret, prairie dog and burrowing owl." (USDI, BLM 1997 - Page 3).

Code No.	Letter No.	Comment and Response
D5	57, 67, 79	**Comment**: Why is BLM promoting unlimited, unregulated prairie dog expansion? **Response**: On page one of this EA it states that there are approximately 49,582 acres of BLM land within the boundaries of this watershed. The BLM approximates on page 37 that there are 120 acres of prairie dog town on public land in the watershed or .002 percent of the total land base. During the spring of 2001 the BLM mapped an additional 401 acres of prairie dog town on private land and 624 acres on state land on which the BLM has no authority over the management. Due to the steep topography and the small size of the public land parcels in this watershed, the opportunity for further expansion of the existing prairie dog towns on public land is very limited. The BLM does not foresee any further significant impact to private land interests or the vegetation resource from prairie dogs. As stated in a previous response (3) the BLM has no plans to control or authorize control of prairie dogs on public land. In response (4) it was noted that the Standards and Guidelines process gives BLM the opportunity to allocate areas of public rangeland to provide habitat for prairie dogs. "While it may at first appear that there is a conflict between managing for health ecosystems and managing for bare ground species, when public lands are managed for these species, consideration of the functionality of the system as a whole will reveal that there is actually not a conflict." (USDA, BLM 1997 - 3).
D6	50	**Comment**: The plan does not mention that the watershed is home range to the Sagebrush Lizard. Short-horned Lizard, Milk Snake and Western Hog-nosed Snake. **Response**: The short-horned lizard was added to the discussion in the EA in Section 3.10.4. The guidance that the BLM relies on for identification and home ranges of amphibians and reptiles, Reichel and Flath 1995, does not show the watershed area to be part of the home ranges of the sagebrush lizard, milk snake, or the western hognose snake. No evidence was noted on the Montana Natural Heritage Program web page that these species occur in the watershed.
D7	71, 76, 77, 78, 79	**Comment**: There is no list of T&E species that exist in the watershed. **Response**: The threatened and endangered, proposed, sensitive and other special status species that are known to exist in the watershed are identified and discussed within the narrative portion of the EA in Section 3.10.
D8	80	**Comment**: Should be some recognition of the value of certain types of heavily grazed shortgrass prairie communities. Should also mention mountain plovers and McCown longspurs. **Response**: No mountain plovers have been documented on or around the project area to date. The BLM would do a nesing bird inventory on any project area prior to project implementation and mitigate appropriately if nests are located. Refer to additions to the EA in Section 4.2.8.1.

Code No.	Letter No.	Comment and Response
D9	51	**Comment:** The plan is unclear about the differences between alternatives 2 and 3. **Response:** In the proposed action (Alternative 2) there are 11 allotments that would receive grazing management changes or treatments that should benefit one or more species of wildlife. These changes are analyzed by allotment in the impacts of the proposed action in Section 4.2.8. The impacts of no grazing (Alternative 3) are analyzed in Section 4.3.8. The wildlife portion of the no grazing analysis has been edited due to considerable public input on this section during the draft stage.
D10	43, 66	**Comment:** Page 64. Contains an unrealistic array of statements that lack scientific foundation in facts. **Response:** The wildlife resources portion of Alternative 3 was rewritten for the final EA to be more factual and less species specific (Refer to Section 4.3.8).
D11	67	**Comment:** Need to address predator control. **Response:** Mammalian predators are mentioned in the document in Section 3.10.1. The list of animal predators that are present in the watershed area was changed in the final EA (Section 3.10.1). Raptors and other avian predators are mentioned in Section 3.10.2
E1	8	**Comment:** Consider adoption of sage grouse monitoring guidelines. **Response:** Portions of the Western Association of Fish and Wildlife Agencies (WAFWA) guidelines are incorporated into this plan. Refer to the discussion for Starve Out Flats and Deadman Coulee allotments on page 16. The conclusions of the Montana state wide sage grouse working group will be included in future watershed plans after the groups recommendations are finalized. The Montana group will recommend what portions of the WAFWA guidelines are appropriate for the situations here in Central Montana.
E2	27, 28, 66, 68	**Comment:** Sage hens do not exist in most of this watershed. **Response:** Two areas that sage grouse are known to occur. Other potential sage grouse habitat was identified in Section 3.10.2 of the EA. The remainder of the watershed is not appropriate sage grouse habitat and is not likely to support sage grouse. Habitat management criteria for sage grouse apply only to those allotments that contain grouse habitat.
E3	36	**Comment:** Intensive wildfire suppression will occur under the preferred alternative. **Response:** Currently the BLM's fire suppression guidance for this area comes from the JVP and West HiLine RMP's. As noted on Page 92 of the Land Use Plan Guidance the JVP calls for intensive suppression of wildfire in areas with high resource values, including sagebrush and juniper. The BLM is currently involved in preparing a fire management plan state wide. Fire suppression in sage grouse habitat is a primary issue in the state wide fire plan.

Code No.	Letter No.	Comment and Response
E4	36	**Comment:** Is the sage grouse habitat migratory or resident? **Response:** It is unknown whether the grouse on the Tonne allotment are migratory or residential. They are thought to be residential grouse, but there is no documented proof one way or the other. The nearest documented leks are 20 miles to the west near Loma and 20 miles to the southeast near Starve Out Flats. The adjacent landowners say there has been grouse present as long as they can remember.
E5	36	**Comment:** The EA does not satisfy needs of sage grouse on the Tonne allotment. **Response:** The existing sagebrush habitat on public and state land in the Tonne allotment is in good condition. The herbaceous understory is more than adequate for sage grouse nesting. Most of the grouse habitat in the area is on private and state land. A majority of the BLM land is either very steep or dominated by clubmoss. Livestock water is very limited in this area so the herbaceous understory is not likely to change. This comment suggests that over 1000 acres of this allotment should be managed for sage grouse. At the very most 25% of the public land in this allotment could be suitable sage grouse habitat. One of the goals of the chiseling proposal is to improve sage grouse habitat on a small portion of BLM that is surrounded by sagebrush on private and state land.
E6	50	**Comment:** Sage grouse are negatively impacted by burning. **Response:** Sagebrush will respond differently to fire primarily depending on the species of sagebrush, climatic conditions and soil type. Sagebrush generally does not come back quickly after fire in this part of Montana. Prescribed fires proposed in this plan will involve very little if any sagebrush. The areas proposed to be burned are the steeper portions of the breaks in primarily coniferous areas. None of these areas are sage grouse habitat.
E7	60, 67	**Comment:** Page 3. Livestock management to solve the sage grouse problem is an unfair solution. **Response:** Including it in the analysis does not mean BLM blames livestock grazing for the reduction in sage grouse numbers. Habitat condition, primarily for grouse nesting cover is just one of the factors affecting grouse numbers. Refer to the discussion in Section 3.10.2 of the EA. This document is intended to provide NEPA analysis for grazing permit renewal for the allotments in this watershed area. To provide this analysis the BLM has to look at the impacts of livestock grazing on all of the other resources.

Code No.	Letter No.	Comment and Response
E8	64, 65	**Comment:** Define the forty acres required by sage grouse. Mention other predators impact sage grouse. **Response:** The BLM will not restrict sage grouse habitat management to a 40 acre area. It has been well documented over the years that a majority of sage grouse nesting occurs within two miles of the strutting ground (leks). The two mile radius guidance has been used for grouse habitat management for many years and will likely be part of the final recommendations that come from the state wide sage grouse working group. Habitat management recommendations for the purposes of this assessment will be correlated with the known sage grouse leks in the area. The exact location of the grouse leks will not be identified in this document. Additional information was added to the final EA that discusses some factors other than habitat that also contribute to declining sage grouse numbers. The BLM, as a land management agency, will continue to concentrate on the habitat issues. There is very little the BLM can do to influence predation and weather patterns.
E9	69	**Comment:** Identify all existing sage grouse habitat and potential areas. **Response:** This comment refers to the entire monument area. The document under review covers 49,582 acres of BLM within the Upper Missouri Watershed area and not the entire area covered by the Upper Missouri River Breaks National Monument. There is no documented essential sage grouse winter range within the watershed area. The BLM has identified two areas of sage grouse habitat that were otherwise undocumented prior to the watershed planning process. The habitat is very marginal because it is extremely fragmented with adjacent private farm ground. The BLM has identified a range improvement project to enhance one of these areas and established a stubble height requirement to protect the other. The BLM has not identified any sagebrush removal in the area and will not permit any activity that will further fragment the known sage grouse habitat areas.

Code No.	Letter No.	Comment and Response
E10	80	**Comment:** The area would not support a vigorous sagebrush community. **Response:** The area of the proposed chisel-plow is surrounded by steep river breaks to the east and fragmented farm land to the west. One of the goals of the project is to expand the size of the otherwise marginal existing sage grouse habitat area. Some of the adjacent state and private land is currently supporting good stands of sagebrush and other native herbaceous vegetation. There is little reason to believe that the clubmoss area would not support a similar vegetation which currently exists across the fence. The total acreage of this treatment will be very minimal after the rocky outcrops that cannot be treated are removed from the project acreage. The BLM does not have data that suggest sage grouse habitat can be established by chisel plowing. There is literature available from Meagher County (Hawn 1991) that describes a two to three fold increase in perennial grass composition and production from shallow chisel plowing. The proposed project calls for seeding sagebrush and other native grasses and forbs. BLM believes there is a good opportunity for the seeded species to take hold and provide additional nesting cover for sage grouse. The treatment area will be monitored closely for noxious weed invasion. Any weeds would be treated chemically as they are discovered.
E11	33	**Comment:** A hail storm took a severe toll on all bird populations. **Response:** The hail storms of 2000 and the associated damage were noted. In some places much of the vegetation was stripped of it's leaves as well. The BLM's goal is to manage the vegetation appropriately so there will be available habitat for the birds as they recover.
E12	36	**Comment:** The references on page 93 should reflect that WAFWA guidelines are final and not still in press. **Response:** Comment noted and change was made in the references section on Page 93 of the Final EA and to the citation in Section 2.2.1.16 of the document.
F1	22, 51	**Comment:** All sites must be monitored every year. **Response:** As outlined in the watershed plan, annual monitoring of allotments is the permittee's responsibility. Monitoring intervals for BLM personnel are based on the condition of the allotment. These schedules are shown in Appendices D and L.
F2	37, 38, 40, 41, 42, 46, 47	**Comment:** How often has monitoring been done and what are the qualifications of the monitors? **Response:** The specialists conducting the range assessments and monitoring were Rangeland Management Specialists from the Lewistown Field Office. Monitoring frequency varies depending on conditions on the allotment.

Code No.	Letter No.	Comment and Response
F3	55	**Comment:** Need to know how "measurable and significant progress is being made toward established goals" will be measured. **Response:** Overall trend of an allotment will be assessed using standard BLM procedures. Qualitative assessments will be conducted to determine if signs of problems exist. These indicators must be viewed with other quantifiable data to make a determination. One negative indicator may not mean an area is not meeting standards. A preponderance of evidence combined with evidence from other study methods is necessary to determine if standards are being met. When assessments are conducted, the BLM looks at the whole picture.
F4	60	**Comment:** How can all the indicators to rangeland health be realistically measured? **Response:** Monitoring and corrective adjustments based on monitoring results are shown in Appendices D, F, and L.
F5	69	**Comment:** BLM should identify how it will accomplish the monitoring and evaluation. **Response:** Measurable and significant progress is based on rate and magnitude. Rate and magnitude are used with an understanding of the site potential of the area. A degraded upland area with marginal soils would not be expected to improve as rapidly as a riparian area because of the differences in recovery rates of these sites. Site potential is determined using soil surveys, riparian classifications, and NRCS ecological site guides.

Code No.	Letter No.	Comment and Response
G1	25, 37, 38, 40, 41, 42, 43, 46, 47, 63, 68, 72, 76, 77, 78, 79	**Comment:** It would appear that the $167,000 figure is grossly underestimated. Unless unknown justifications were utilized, estimating that each AUM only contributes $28 per year to the local economy seems to be a gross underestimate and ultimately skews the economic impacts attributed to agriculture. The same can be said for the estimate that only six jobs are related directly and indirectly to the nearly 6,000 AUMs. **Response:** The impact analysis was based on the analysis completed for the Montana Standards for Rangeland Health and Guidelines for Livestock Grazing Management Environmental Impact Statement (USDI, BLM, 1997). The analysis used the IMPLAN input-output modelling system to estimate the multiplier effect of changes in AUMs to the regional economy. The model estimates how much local spending changes affect the local-area economies based on how much spending circulates in the area versus how much spending leaves the area. The amount that leaves the area is known as "leakage." In the case of the cost of production for a cow-calf pair, some portion of that spending is done in the local area for goods and services. That local spending, in turn, generates some other local spending, thus creating a "multiplier" effect on area income and jobs which are generally referred to as regional economic impacts. However, some of the spending "leaks" out of the area because local retail merchants and service providers (e.g. equipment and supply merchants, veterinarians, etc.) make purchases from outside the area and they must pay those out-of-area suppliers. In those cases, only the "retail" mark-up part of the transactions remains in the area. The smaller, and perhaps less diversified, an area's economy is, the more "leakage" the area will have in terms of economic activity.

Code No.	Letter No.	Comment and Response
G2	71, 72, 76, 77, 78, 79	**Comment:** BLM fails to provide information that shows either the cumulative impacts or the connected actions that the proposed actions will have on the permittee, the communities, the counties, and the surrounding region. Some examples of cumulative impacts that the agency must consider are: – the economic impact to counties and communities as livestock numbers are systematically changed from these and other allotments throughout the region – the impact to the stakeholders, region and communities if all federal land grazing allotment owners in the region are incrementally driven out of business – the cumulative effect on local economics, schools, tax base, social structure from the loss of these allotments and the loss of employment, taxes, direct, induced and indirect economic impacts from all affected allotments as well. **Response:** The proposed action is not expected to cause the types of cumulative impacts described in the comment. Under the proposed action, most of the permittees in the planning area would be unaffected by the proposed management actions. Under Alternative 3 - No Grazing, which is not the proposed action, the cumulative impacts would depend on operators' individual abilities to adjust their operations. It is inappropriate to assume that all permittees in the region would go out of business under Alternative 3 - No Grazing. As indicated in the EA, impacts would occur gradually as permits expire. Many operators would adjust their operations, though this would require difficult choices for some permittees. Changes would be easier for some than for others, depending on a variety of factors such as their level of dependency on BLM forage to meet the needs of their entire operation, their financial situation, options available to them, etc.
G3	70	**Comment:** If the EA is going to represent that the proposed grazing program will contribute to the local economy, the EA should also state the proposal's impact on the taxpayers that support the program. Numerous studies have confirmed that the grazing fees paid by lessees do not nearly cover the cost of administering the program. It is difficult to see how an informed, reasoned decision regarding the benefits that accrue to the public can be made without this information. **Response:** We understand there is a long-standing controversy about grazing fees – what is fair market value, what costs should fees cover, etc. However, the subject of appropriate fee level is beyond the scope of the actions covered in this EA.

Code No.	Letter No.	Comment and Response
G4	49, 71	**Comment:** Where are the cultural and social human dimension impacts evaluations? This would include the cumulative effect on local social structure from the loss of these allotments and the loss of employment, taxes, direct, induced and indirect economic impacts from all affected allotments as well. I would like to see more consideration be given to communities' heritage, customs and culture. **Response:** The social and cultural conditions and impacts are discussed in Chapters 3 and 4. More in-depth discussions are available in the Standards for Rangeland Health and Guidelines for Livestock Grazing Management EIS, BLM, 1997. Under the proposed action, most of the permittees in the planning area would be unaffected by the proposed management actions. The other potential economic effects are expected to be minimal. Therefore, little change to the social structure would be expected.
H1	5, 20, 22, 49, 69	**Comment:** No road closures. **Response:** The State Director's Interim Guidance (IG) for the National Monument states that established roads and trails will remain open to use as presently authorized. The EXCEPTIONS of uses for which these roads and trails will remain open are listed on page 4 of the IG. The OHV/EIS, a document covering three states and currently under protest, only applies to BLM lands outside of the Monument. However, the IG reflects the language in the new OHV policy. Only designated vehicle ways are open to motorized and mechanized use within the WSAs. There are no exceptions to this regulation. The Monument RMP will address all of these issues and any other potential road and trail designations and/or closures.
H2	5	**Comment:** Keep current regulations concerning no-wake zones. **Response:** This document does not address river management. This issue will be dealt with in the Monument RMP.
H3	12, 18, 54	**Comment:** What about the impacts caused by floaters? **Response:** These issues will be dealt with in the Monument RMP.
H4	36	**Comment:** The EA dismisses the concerns of river users over encounters with livestock operations as trivial. **Response:** Recreation/livestock conflicts were noted in the 1993 River Plan Update. This document attempted to minimize these conflicts on public land with livestock exclosures and changes in seasons of use by livestock.
I1	6	**Comment:** Will water developments go forward? **Response:** If Alternative 2 "The Proposed Action" is selected, than all the proposed projects could begin to be implemented. Funding priorities, site-specific clearances and survey and design work could influence how promptly they were constructed.

Code No.	Letter No.	Comment and Response
I2	15, 62, 74	**Comment:** The Department of State Lands (DSL) expects to be part of the decision making process for range improvements. **Response:** The BLM has not proposed any project construction on State Lands. The BLM will coordinate projects to be constructed on BLM lands but adjacent to State Land. All projects proposed on State Lands are subject to the Department of Natural Resources and Conservation (DNRC) rules and regulations and are between the State Land leasee and DNRC. The BLM does license State Lands as a total capacity in some allotments where State Land is unfenced from adjacent private and Federal land. If changes in State permits occur, it is the BLM's position that it is the responsibility of the permittee to notify the BLM.
I3	15, 74	**Comment:** It is not clear what range improvements are planned. **Response:** The depiction of projects on appendix maps is primarily for location purposes only. The actual description of the proposed project is in Chapter 2 under each specific allotment. The proposed mechanical treatment is described in Section 2.2.1.4 and is intended to be a one time pass with a BLM chisel plow seeder.
I4	33	**Comment:** We are considering some sort of fencing and a temporary pump to keep cattle off BLM and riparian areas. **Response:** The proposal to look at fencing off the BLM to allow deferment of grazing and the possibility of adding off site water by a pumping system will be added to the proposed action section of the document. These proposals can then be added to the analysis.
I5	62, 74	**Comment:** An exclosure built for the public should be maintained by the public. **Response:** The proposed exclosure design would be done in conjunction with the permittee to help provide protection to young trees and still allow cattle access to both sides. Due to such factors as the reduced grazing fee, all maintenance responsibilities for livestock facilities are assigned to permittees. When a range improvement is authorized by a Range Improvement Permit, the permittee or lessee is responsible and agrees to provide full funding for maintenance. The BLM also may stipulate maintenance responsibilities as terms and conditions of permits or leases under 43 CFR 4120.3-1(c) and 4120.3-3(a).
J1	2	**Comment:** Help solve the weed problem **Response:** Implementation of the proposed alternative would initiate development of a Weed Management Area (WMA) encompassing the watershed. Establishment of the WMA would facilitate cooperation among landowners and various state and federal agencies, providing guidance for a more proactive weed control program. This information is discussed in detail in Section 2.2.3 of the plan.

Code No.	Letter No.	Comment and Response
J2	20	**Comment:** The Federal Government should obey state and local weed laws. The goal should be eradication within a year. **Response:** Present BLM weed control efforts comply with state and local weed control laws. The BLM, with cooperation from permittees, is involved in biological and chemical control within the planning area. Eradication of established stands of Category 1 weeds in one year, primarily leafy spurge and Russian knapweed, is not a realistic goal. Leafy spurge and Russian knapweed are deep rooted, rhizomatous perennial plants. Despite long-term academic, corporate, and private experimentation and testing, successful, rapid eradication of established stands has not been accomplished. Management actions identified in Alternative 2 include containment and suppression of existing infestations of Category 1 weeds, and prevention of new infestations. Eradication of newly identified, small stands of Category 2 and Category 3 weeds is identified as our proposed action; see Section 2.2.3.
J3	51	**Comment:** The BLM has the authority to close roads to prevent the spread of weeds. BLM should be more proactive in weed control. **Response:** Implementation of the proposed alternative would initiate development of a Weed Management Area (WMA) encompassing the watershed. Establishment of the WMA would facilitate cooperation among landowners and various state and federal agencies, providing guidance for a more proactive weed control program. This information is discussed in detail in Section 2.2.3 of the plan.
K1	58	**Comment:** We would like to know what the future plans are for cultural resource management. **Response:** The Upper Missouri Watershed Plan was directed around the issues identified in Section 1.4. As stated in Section 1.5, management of cultural resources (and other resources) will be addressed in the upcoming Upper Missouri River Breaks Monument RMP.

APPENDICES

APPENDIX A

Guidelines for Livestock Grazing Management in the Upper Missouri Watershed

Guideline #1: Salting and supplemental feeding

If salt and/or mineral are provided to livestock, they will be placed a minimum of 1/4 mile from riparian areas (including both reservoirs and creeks) and stock water tanks. Salt and/or mineral placement locations will be rotated periodically (once each grazing season at a minimum). Supplemental feeding will not be allowed except to accomplish resource objectives.

Guideline #2: Riparian stubble height

Adequate vegetative stubble heights will remain on plants identified as having deep binding root mass at the end of the grazing season to provide streambank stability, trap and filter sediment, improve water quality, and to facilitate meeting site-specific objectives. Average vegetative stubble heights will be four inches for grasses and shrubs. Utilization of trees and shrubs will not exceed 25% of the 2nd year and older available leaders. Plants with a deep binding root mass include trees (cottonwood, green ash, box elder, and peachleaf willow), shrubs (sandbar and yellow willow, dogwood, chokecherry, buffaloberry, golden and buffalo currents), forbs (cattail and American licorice), and grasses (western wheatgrass, slough grass, cord grasses, sedges and rushes).

Guideline #3: Utilization of upland grasses

Utilization on key grass species in upland areas will not exceed 50% by weight or 4 inch stubble height at the end of the grazing season. Sage grouse nesting areas have different site-specific objectives.

Guideline #4: Grazing systems

When practical, rotational or rest rotation type grazing systems will be used to maximize the amount of rest on the allotment during the growing season and/or break up the cycle of continuous hot season use on riparian areas. At a minimum, portions of an allotment under rotational grazing should receive periodic rest during the growing season and hot season grazing should not occur each year on any given pasture. Season-long or year-round grazing will be discontinued if standards for rangeland health are not met.

Guideline #5: Surface disturbance and seeding

Permittee must notify the BLM prior to conducting any surface disturbing activities on public land. Areas that are disturbed by fire or mechanical means will be rested two growing seasons. Native plant species will be used for reclamation of all disturbed areas. The only time non-native seed should be used is when there is a lack of native seed availability following large scale fires or the use of sterile non-native annual grasses is necessary to achieve rapid site stability and/or reduce the threat of noxious weeds.

Guideline #6: Pasture moves

Pasture move dates as shown in this watershed plan are an estimate, actual move dates should be based on resource conditions and forage utilization. Any pasture moves exceeding five days past the scheduled move date will be made with concurrence of the BLM. Earlier or later move dates could be required or permitted based on resource or livestock conditions or if the guidelines for upland utilization or riparian stubble heights are exceeded or are yet to be reached.

Guideline #7: Changes in scheduled use

Any deviation from scheduled use must be applied for by the permittee and approved by the BLM manager prior to any changes taking place. The guidelines for upland utilization, riparian stubble heights and progress toward meeting site-specific objectives will be evaluated when reviewing requests for deviation from scheduled use. Requests to change use will not be granted unless it has been demonstrated to be consistent with achieving healthy, properly functioning ecosystems and site-specific objectives.

Guideline #8: Drought

During periods of drought, or at the earliest possible time when it becomes apparent that drought conditions are likely, the BLM and permittees will meet to discuss and arrange management changes needed to reduce resource impacts and continue progress toward meeting specific objectives (Refer to BLM Montana, North Dakota and South Dakota drought policy).

Guideline #9: Terms and conditions/ management prescriptions

Management prescriptions are identified on a site-specific basis and will be implemented as terms and conditions of the grazing permit/lease. Permittees should provide periodic input to BLM on needed adjustments to grazing plans so that refinements can be made to improve resource conditions.

Guideline #10: Water developments

Locate facilities (water developments, etc) away from riparian-wetland areas. Water tanks must have a escape ramp, float valve and overflow pipe to eliminate over flow around tank.

Guideline #11: Weeds

Noxious weed control is essential and should include: cooperative agreements, public education, and integrated pest management (mechanical, biological, chemical).

Guideline #12: Water quality

Livestock management should utilize practices such as those referenced by the published Natural Resources Conservation Service (NRCS) prescribed grazing technical guide to maintain, restore or enhance water quality.

Guideline #13: Threatened, endangered and sensitive species

Grazing management should maintain or improve habitat for federally listed threatened or endangered species and any state listed sensitive species. BLM will keep permittees informed of changes in listing status of any species known to exist on their allotment.

Guideline #14: Native plants

Grazing management should maintain or promote the physical and biological conditions to sustain native populations and communities.

Guideline #15: Control of livestock

Control of livestock is the permittee's responsibility. Monitoring should be conducted by permittee to insure livestock are in proper locations. Livestock that are allowed to freely roam to public lands on adjacent allotments will be treated as trespass livestock. Additional monitoring will be conducted by the BLM to insure this guideline is met.

APPENDIX B

Mattuschek Allotment Rotations

Year 1: Fall Use Mattuschek River

Pasture	Number	On Date	Off Date	Time	Remarks
Chimney	60	5/5	6/5	4 wks	
Wildhorse	233	6/6	6/20	2 wks	
McDonald Ridge	233	6/21	8/15	7 wks	
Mees Ridge	233	8/16	9/1	2 wks	Remarks
Middle	168	9/1	10/31	8 wks	herd split 65 head go to River Allotment
Mattuschek River/Chimney	185	9/1	10/15	5 wks	120 from River allot. 65 from Mattuschek

Year 2: Spring and Fall Use on Mattuschek River

Pasture	Number	On Date	Off Date	Time	Remarks
Mattuschek River	60	5/5	6/5	4 wks	
McDonald Ridge	233	6/6	7/20	6 wks	
Middle	233	7/21	9/10	6 wks	
Middle	168	9/10	9/30	3 wks	herd split: 65 head go to River Allotment
Mees Ridge	168	10/1	10/15	2 wks	
Wildhorse	168	10/15	10/31	3 wks	
Mattuschek River/Chimney	185	9/10	10/15	5 wks	120 from River allot. and 65 from Mattuschek

Year 3: Fall Use Mattuschek River

Pasture	Number	On Date	Off Date	Time	Remarks
Chimney	60	5/5	6/5	4 wks	
Middle	233	6/6	8/6	8 wks	
Wildhorse	233	8/7	8/21	2 wks	
McDonald Ridge	233	8/22	9/10	2 ½ wks	
McDonald Ridge	168	9/11	10/11	4 wks	herd split: 65 head go to River allotment
Mees Ridge	168	10/12	10/31	2 ½ wks	
Mattuschek River/Chimney	185	9/10	10/15	5 wks	120 from River allot. 65 from Mattuschek

Year 4: Spring and Fall Use on Mattuschek River

Pasture	Number	On Date	Off Date	Time	Remarks
Mattuschek River	60	5/5	6/5	4 wks	
Mees Ridge	233	6/6	7/20	2 wks	
Middle	233	7/21	9/10	7 wks	
Wildhorse	168	9/11	9/21	3 wks	herd split: 65 go to River Allotment
McDonald Ridge	168	9/22	10/31	7 wks	
Mattuschek River/Chimney	185	9/10	10/15	5 wks	120 from River allot. and 65 from Mattuschek

APPENDIX C

Monitoring And Evaluation

Key areas would be established for upland and riparian utilization. Existing upland study sites would continue to be used and additional sites may need to be established. One riparian study site would need to be established. There should be a minimum of one upland and one riparian study site per pasture unless no significant riparian habitat exists in the pasture.

Monitoring would be collected by permittees and the BLM. Permittees would be responsible to constantly monitor livestock distribution, utilization levels, and stubble heights on their allotments to ensure that livestock grazing is consistent with established guidelines. Monitoring would be conducted according to the "Monitoring for Success" guidebook (DNRC, August, 1999). Permittees would be responsible to send data and photos of each monitoring site yearly to BLM. The photos would be taken following grazing use. Photos would be reviewed and if there is concern about the site then the BLM would plan to monitor the site the next year.

Monitoring would be conducted utilizing the key species dominant at each study site. In most cases, key upland species would be western wheat grass, green needle and blue bunch wheat grass.

Upland study plots are marked by a steel witness post set at approximately 100 feet south of marker disc. Permittees would take one general landscape photo taken from the marker disc facing away from witness post. Another photo would be taken directly at ground near angle iron or rebar stakes which are six feet from steel disc. Photos for riparian monitoring sites would be taken from the upstream end of the study reach looking downstream.

BLM would monitor sites (riparian and upland) according to their present condition rating:

- Proper Functioning Condition sites: every 5 years
- Functioning At Risk sites: every 2-3 years
- Non-Functioning sites: yearly

Appendix D lists the upland and riparian monitoring schedule by study plot.

BLM personnel will be available to provide monitoring training for permittees.

Actual use data would be collected on the following allotments: PN Sag, Dog Creek, Judith River, River, Iron City Island, and Mattuschek. Permittees will be responsible for submitting actual use reports to the BLM at the end of each grazing season.

First order fire effects would be monitored following the prescribed burns.

Evaluation of monitoring data would occur yearly. A watershed evaluation would need to be completed within 10 years for permit renewal.

APPENDIX D

Upland Health Assessments 2000 and Monitoring Schedule

Allotment Number & Study Number	Allotment Name	Plot	Ecol. Site Index Score	Seral Stage	Trend	Upland Range Health (Factor)	Soil Surface Factor	Monitoring Schedule
09778-01-01	Deadman Coulee	T-1	87	PNC	up	PFC	Slight	5 years
09788-01-03	Deadman Coulee	T-3	76	PNC	Static	PFC	Stable	5 years
19837-01-03	Sheep Shed Coulee (formerly LC T-1)	T-3	28	mid seral	Static	FAR-Livestock	Stable	2-3 years
19837-01-02	Sheep Shed Coulee	T-2	63	late seral	Static	PFC	Stable	5 years
19837-01-05	Sheep Shed Coulee	T5	48	mid seral	Static	PFC	Slight	5 years
19837-01-1	Sheep Shed Coulee	T-1	45	mid seral	Static	PFC	Slight	5 years
19837-01-04	Sheep Shed Coulee (formerly Flat Creek T-2)	T-4	46	mid seral	Up	PFC	Stable	5 years
09826-01-01	Flat Creek	T-1	64	late seral	Up	PFC	Slight	5 years
09808-01-01	Starve Out	T-1	69	late seral	Up	PFC	Slight	5 years
09808-01-01	Starve Out	T-2	38	mid seral	Down	NF-Prairie Dogs	Stable	2-3 years
19655-01-01	Eagle	T-1	44	mid seral	Down	FAR-invasive plants (cheatgrass)	Slight	2-3 years
9700-01-01	Cutbank Coulee	T-1	48	mid seral	Up	PFC	Stable	5 years
09714-01-02	Rattlesnake	T-2	53	late seral	Up	PFC	Stable	5 years

Allotment Number & Study Number	Allotment Name	Plot	Ecol. Site Index Score	Seral Stage	Trend	Upland Range Health (Factor)	Soil Surface Factor	Monitoring Schedule
09714-01-01	Rattlesnake	T-1	52	late seral	Up	PFC	Mod.	5 years
09714-01-03	Rattlesnake	T-3	54	late seral	Up	PFC	Stable	5 years
09729-01-01	Kipps Rapids	T-1	50	late seral	Up	PFC	Stable	5 years
09729-01-02	Kipp Rapids	T-2	55	late seral	Up	PFC	Stable	5 years
09662-01-01	Mud Springs Coulee	T-1	55	late seral	Up	PFC	Stable	5 years
09662-01-02	Mud Springs Coulee	T-2	60	late seral	Up	PFC	Stable	5 years
9687-01-02	Dammel	T-2	40	mid seral	Up	PFC	Stable	5 years
9687-01-01	Dammel	T-1	88	PNC	Up	PFC	Stable	5 years
09799-02-01	Hole in Wall	2-01	70	late seral	Static	PFC	Slight	5 years
09799-02-02	Hole in Wall	2-02	38	mid seral	Down	PFC	Slight	5 years
09799-03-01	Hole in Wall	3-01	38	mid seral	Static	PFC	Slight	5 years
09777-01-01	Pass Coulee	T-1	39	mid seral	Down	FAR-Livestock	Stable	every year
09838-02-01	White Rock (formerly Able Place T-1)	T-1	37	mid seral	Static	PFC	Stable	3 years
09838-02-02	White Rock (formerly Able Place T-2)	T-2	48	mid seral	Static	PFC	Stable	3 years
09838-01-03	White Rock (formerly Tonne T-2)	T-3	35	mid seral	Static	PFC	Stable	5 years

Allotment Number & Study Number	Allotment Name	Plot	Ecol. Site Index Score	Seral Stage	Trend	Upland Range Health (Factor)	Soil Surface Factor	Monitoring Schedule
09838-01-04	White Rock (formerly Tonne T-1)	T-4	50	late seral	Static	PFC	Stable	5 years
15123-01-01	PN Arrow	1-1	44	mid seral	Down	FAR-Livestock	Mod.	every year
15123-07-1	PN W. Sag	7-1	45	mid seral	Down	PFC	Stable	5 years
15123-11-1	PN Big Sag	11-1	38	mid seral	Down	FAR-Livestock	Slight	every year
15124-21-1	Dog Ck L. Dog Creek Past.	21-1	38	mid seral	Up	PFC	Stable	5 years
15124-20-1	Dog Creek Dog Ck Pasture	20-1	64	late seral	Up	PFC	Stable	5 years
15124-19-1	Dog Ck River Past.	19-01	30	mid seral	Static	FAR-Livestock	Stable	every year
15123-23-1	PN Judith	23-1	64	late seral	Up	PFC	Stable	5 years
20066-01-01	Iron City Island	T-1	73	late seral	Up	PFC	Stable	5 years
20066-01-02	Iron City Island	T-2	75	PNC	Up	PFC	Stable	5 years
20045-01-01	Mattuschek	T-1	72	late serai	UP	FAR-Site (Alluvial Fan)	Critical	5 years
20045-02-01	Mattuschek	2-1	42	mid seral	Down	FAR-Livestock	Stable	every year
20045-05-1	Mattuschek	5-1	40	mid seral	Up	PFC	Stable	5 years
20045-04-1	Mattuschek	3-1	40	mid seral	Static	PFC	Stable	5 years
20045-01-C	Mattuschek (formerly River C)	C-3	86	PNC	Static	PFC	Stable	5 years
20046-B-1	River	B-1	72	late seral	Up	PFC	Stable	5 years
20046-A-1	River	A-1	75	PNC	Static	PFC	Stable	5 years

APPENDIX E

Riparian Health Assessments

Allotment Name	Polygon #	Health Rating	Location (River Mile)	Distance (Miles)
Rattlesnake	1318	FAR (73)	47.7	0.2
Rattlesnake	1377-8	FAR (64)	51.1	0.25
White Rock	1410-20	FAR (67)	53.6	0.6
White Rock	1474-80	FAR (61)*	58.5	0.2
Hole in the Wall	1521-6	FAR (69)*	62.8	1.0
Dammel	1539-42	FAR (63)*	64.2	1.0
Dammel	1562	FAR (78)*	65.4	0.8
Sheep Shed	1562	FAR (69)*	66.2	0.3
Sheep Shed	1592-8	FAR (67)*	68.9	0.5
Sheep Shed	1603-4	FAR (67)*	71.2	0.2
Sheep Shed	1637	FAR (67)*	74.7	0.4
Sheep Shed	Sheep Shed Coulee #2	FAR (75)*	T23N R14E Sec 15 NW	0.2
Pass Coulee	Flat Creek #1	FAR (64)*	T22N R14E Sec 9 N2	0.4
Deadman Coulee	Flat Creek #2	FAR (77)*	T22N R14E Sec 2 SW	1.1
Deadman Coulee	Fahlgren Coulee #1	FAR (74)*	T22N R14E Sec 13 NE, SW	0.9
PN	1680-2	NF (56)	77.7	0.4
PN	1754-6	FAR (64)	86.9	0.3
PN	1884-92	PFC (86)	89.9	1.1
PN	1931-2, 1936	PFC (80)	92.1	0.7
PN	1936-9	PFC (81)	92.8	0.6
PN	1944-5	FAR (69)	93.5	0.2

Allotment Name	Polygon #	Health Rating	Location (River Mile)	Distance (Miles)
PN	Dog Creek #6 (1994)	NF (53)*	T22N R17E Sec 15 N2	0.9
PN	Dog Creek #7 (1994)	FAR (62)*	T22N R17E Sec 6 SE	0.5
PN	Dog Creek #8 (1994)	FAR (67)*	T22N R17E Sec 6 SW, NW	1.3
Iron City	1966-8	FAR (69)	95.1	0.7
Iron City	1974-7	PFC (83)	95.8	0.7
Iron City	1983-92	FAR (69)*	96.8	0.9
Iron City	2002-9	NF (56)	98.3	1.0
River	2016-20	FAR (64)	100.1	0.3
Mattuschek	2037-8	PFC (89)	101.4	0.2
Mattuschek	2044-5	FAR (75)	102.0	0.2
Mattuschek	2048-52	PFC (83)	103.2	0.4
Mattuschek	2055-6	PFC (81)	104.1	0.2
Mattuschek	2060-2	PFC (85)	105.1	0.5
Mattuschek	2064	FAR (79)*	106.0	0.1
Mattuschek	2067-8	FAR (75)*	106.4	0.2
Mattuschek	2080	PFC (85)	107.6	0.2
Mattuschek	2081	FAR (73)	107.9	0.1
Mattuschek	2082-3	FAR (78)*	108.4	0.8
Mattuschek	2091	FAR (76)*	110.5	0.1
Mattuschek	2093-5	FAR (70)*	111.3	0.5

* (Riparian areas where livestock are a major factor affecting the health rating)

APPENDIX F

Corrective Adjustments For Resource Protection

The guidelines described in Appendix A are considered best management practices necessary to achieve objectives identified in this plan and to maintain or improve rangeland resources. Livestock use that exceeds the guideline will reduce the ability to maintain proper range conditions. The success of these guidelines is dependent on active involvement by the livestock permittees in the day-to-day management of allotments.

If the guidelines are exceeded and overuse does occur, corrective action should be implemented during the next grazing season to insure that such use does not occur again and prevent necessary vegetative recovery from occurring. In such instances, prior to the next grazing season, the permittee(s) and BLM manager should cooperatively develop these corrective adjustments. The recommended management adjustments identified below are a tool that can ve used, modified, or added to, on a case by case basis. The BLM would prefer that the grazing permittee(s) suggest corrective actions needed to maintain vegetative health and vigor while still meeting livestock management needs. If however, a cooperatively developed corrective adjustment cannot be reached, the following adjustments will be applied:

Recommended Stubble Height for Riparian Species = 4 Inches

Actual Stubble Height (inches)	**Corrective Adjustment**
3 to 4 inches any one year	Discuss situation with permittee
3 to 4 inches two consecutive years	5 inch stubble height the next year
3 to 4 inches more than two consecutive years	6 inch stubble height the next year
2 to 3 inches any one year	5 inch stubble height the next year
2 to 3 inches two consecutive years	6 inch stubble height the next year
2 to 3 inches more than two consecutive years	Rest the pasture the following year
Less than 2 inches in any one year	Rest the pasture the following year

Recommended Upland Species Utilization Level = 50% by Weight

Actual Utilization Level (%)	**Corrective Adjustment**
Exceeds prescribed level by more than 10% but less than 25%	Discuss situation with permittee
Exceeds prescribed level by more than 25%	Discuss situation with permittee. Limit utilization to 40% the following year.
Exceeds prescribed level by more than 25% in any two consecutive years	Complete rangeland health assessment. Take corrective action by limiting livestock use if any standard is not being meet because of current grazing management practices.

APPENDIX G

Precipitation Records, lliad Weather Station, 1995-2000

Inches of precipitation

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
1995	0.1	0.14	0.75	1.66	2.22	4.77	3.06	1.42	0.35	1.51	1.18	0.41	17.57
1996	1.45	0.1	1.87	0.77	3.3	1.31	0.5	0.63	0.82	0.31	0.78	0.8	12.64
1997	0.13	0.17	0.48	1.67	4.19	2.66	2.23	1.08	0.64	0.43	0.1	0.26	14.04
1998	0.79	0.08	1.06	0.98	2.39	3.76	3.35	0.65	0.35	1.56	0.95	0.55	16.47
1999	0.64	0.46	0.36	1.93	1.51	2.56	1.01	2.22	1.8	0.65	0.39	0.07	13.6
2000	0.27	0.92	0.47	0.82	1.16	1.69	1.76	0.02	1.72	0.72	0	0	7.07
6 year Ave.	0.59	0.4	0.64	1.11	2.19	2.32	1.51	1.38	1.05	0.75	0.49	0.46	13.47

APPENDIX H

ALLOTMENT MANAGEMENT PLANS AND CURRENT GRAZING SYSTEMS

Allotment Name	AMP	AMP Implemented	AMP Modified	Remarks
Able Place (LaBarge)	Yes	Yes	No	Two Pasture Rotation
Black Rock	No	n/a	n/a	
Cut Bank Coulee	No	n/a	n/a	
Dammel	No	n/a	n/a	
Deadman Coulee	No	n/a	n/a	
Eagle Butte	No	n/a	n/a	
Flat Creek	Yes	Yes	No	
Hole in the Wall	Yes	Yes	Yes	Three Pasture Deferred rotation
Iron City Island	Yes	Yes	Yes	Two Pasture Deferred Rotation
Last Chance Bench	Yes	No	No	
Kipps Rapids	No	n/a	n/a	
Mattuschek	Yes	Yes	No	Five Pasture Deferred Rotation (used in combination with River Pasture C)
Miller Place	No	n/a	n/a	
Mud Spring Coulee	No	n/a	n/a	
Pass Coulee	No	n/a	n/a	
PN Ranch Dog Ck Sag	No	No	No	Rotational
PN Ind.	No	n/a	n/a	
Rattlesnake Coulee	No	n/a	n/a	

Allotment Name	AMP	AMP Implemented	AMP Modified	Remarks
River	Yes	Yes	No	Deferred Rotation between Pastures A&B
Sheep Shed Coulee	Yes	No	No	
Sherry Coulee	No	n/a	n/a	
Starve Out Flats	Yes	No	No	
Tonne (White Rocks)	Yes	Yes	No	Rotation with Able Place Allotment

APPENDIX I

Standards For Rangeland Health

Standards

Standards are statements of physical and biological condition or degree of function required for health sustainable rangelands. Achieving or making significant and measurable progress towards these functions and conditions is required of all uses of public rangelands. Historical data, when available, should be used when assessing progress towards these standards.

Standard #1: Uplands Are In Proper Functioning Condition

This means that soils are stable and provide for capture, storage and safe release of water appropriate to soil type, climate and landform. The amount and distribution of ground cover (i.e., litter, live and standing dead vegetation, microbiotic crusts, and rock/gravel) for identified ecological site(s) or soil-plant associations are appropriate for soil stability.

Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface scaling and compaction layers below the soil surface is minimal. Ecological processes including hydrologic cycle, nutrient cycle and energy flow are maintained and support healthy biotic populations. Plants are vigorous, biomass production is near potential and there is a diversity of species characteristic of and appropriate to the site. Assessing proper functioning conditions will consider use of historical data.

As indicated by:

Physical Environment

- erosional flow patterns
- surface litter
- soil movement by water and wind
- soil crusting and surface sealing
- compaction layer
- rills
- gullies
- cover distribution

Biotic Environment

- community richness
- community structure
- exotic plants
- plant status
- seed production
- recruitment
- nutrient cycle

Standard #2: Riparian And Wetland Areas Are In Proper Functioning Condition

This means that the functioning condition of riparian-wetland areas is a result of the interaction among geology, soil, water and vegetation. Riparian-wetland areas are functioning properly when adequate vegetation, landform or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve flood water retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for native fish production, waterfowl breeding, and other uses appropriate for the area that will support greater species richness.

The riparian-wetland vegetation is a mosaic of species richness and community structure serving to control erosion, shade water, provide thermal protection, filter sediment, aid floodplain development, dissipate energy, delay flood water, and increase recharge of groundwater where appropriate to landform. The stream channels and flood plain dissipate energy of high water flows and transport sediment appropriate for the geomorphology (e.g., gradient, size, shape, roughness, confinement, and sinuosity), climate, and landform. Soils support appropriate riparian-wetland vegetation, allowing water movement, filtering sediment, and slowing ground water movement for later release. Stream channels are not entrenching beyond natural climatic variations and water levels maintain appropriate riparian-wetland species.

Riparian areas are defined as land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lake shores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil. Assessing proper functioning conditions will consider use of historical data.

As indicated by:

Hydrologic

- floodplain inundated in relatively frequent events (1-3 years)
- amount of altered streambanks
- sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e., landform, geology, and biodimatic region); and upland watershed not contributing to riparian degradation.

Erosion/Deposition

- plain and channel characteristics; i.e., rocks, coarse and/or woody debris adequate to dissipate energy
- point bars are being created and older point bars are being vegetated
- lateral stream movement is associated with natural sinuosity
- system is vertically stable
- stream is in balance with water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition)

Vegetation

- reproductive and diverse age class of vegetation
- diverse composition of vegetation
- species present indicate maintenance of riparian soil moisture characteristics
- streambank vegetation is comprised of those plants or plant communities that have deep binding root masses capable of withstanding high streamflow events
- utilization of trees and shrubs
- riparian plants exhibit high vigor
- adequate vegetative cover present to protect banks and dissipate energy during high flows
- where appropriate, plant communities in the riparian area are an adequate source of woody debris

Standard #3: Water Quality Meets Montana State Standards

This means that surface and ground water on public lands fully support designated beneficial uses described in the Montana Water Quality Standards. Assessing proper functioning conditions will consider use of historical data.

As indicated by:

- dissolved oxygen concentration
- pH
- turbidity
- temperature
- fecal coliform
- sediment
- color
- toxins
- others: ammonia, barium, boron, chlorides, chromium, cyanide, endosulfan, lindane, nitrates, phenols, phosphorus, sodium, sulfates, etc.

Standard #4: Air Quality Meets Montana State Standards

This means that air quality on public lands helps meet the goals set out in the State of Montana Air Quality Implementation Plan. Efforts will be made to limit unnecessary emissions from existing and new point or non-point sources.

The BLM management actions or use authorizations do not contribute to air pollution that violates the quantitative or narrative Montana Air Quality Standards or contributes to deterioration of air quality in selected class area.

As indicated by:

Section 176(c) Clean Air Act which states that activities of all federal agencies must conform to the intent of the appropriate State Air Quality Implementation Plan and not:

- cause or contribute to any violations of ambient air quality standards
- increase the frequency of any existing violations
- impede the State's progress in meeting their air quality goals

Standard #5: Habitats are provided to maintain healthy, productive and diverse populations of native plant and animal species, including special status species (federally threatened, endangered, candidate or Montana species of special concern as defined in BLM Manual 6840, Special Status Species Management)

This means that native plant and animal communities will be maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant lifeforms. Where native communities exist, the conversion to exotic communities after disturbance will be minimized. Management for indigenous vegetation and animals is a priority. Ecological processes including hydrologic cycle, and energy flow, and plant succession are maintained and support healthy biotic populations. Plants are vigorous, biomass production is near potential, and there is a diversity of plant and animal species characteristic of and appropriate tc the site. The environment contains components necessary to support viable populations of a sensitive/threatened and endangered species in a given area relative to site potential. Viable populations are wildlife or plant populations that contain an adequate number of reproductive individuals distributed on the landscape to ensure the long-term existence of the species. Assessing proper functioning conditions will consider use of historical data.

As indicated by:

- plants and animals are diverse, vigorous and reproducing satisfactorily noxious weeds are absent or insignificant in the overall plant community
- spatial distribution of species is suitable to ensure reproductive capability and recovery

- a variety of age classes are present
- connectivity of habitat or presence of corridors prevents habitat fragmentation
- species richness (including plants, animals, insects and microbes) are represented
- plant communities in a variety of successional stages are represented across the landscape.

APPENDIX J

Land Use Plan Guidance

- **Energy Mineral Resources:** No surface occupancy restrictions will be used to protect critical paleontology sites and archeology sites. Seasonal and distance restrictions will be included in oil and gas leases to mitigate impacts to wildlife habitat **(JVP, Interim Monument Guidance)**.

The UMNWSR Corridor and the Missouri River Breaks Monument are closed to mineral leasing. Exploration activity will avoid, to the maximum extent possible, the "seen area" of the management corridor, and will utilize accepted principals of landscape architecture to minimize temporary and permanent visual impacts **(West HiLine, Interim Monument Guidance)**.

- **Non-energy Mineral Resources:** Federal minerals are available for exploration and development unless withdrawn **(JVP)**. The entire UMNWSR management corridor and the Missouri River Breaks Monument are withdrawn from location under the mining laws **(West HiLine, Interim Monument Guidance)**.

- **Paleontology:** Major paleontological resources of scientific interest will be protected **(JVP, West HiLine, Interim Monument Guidance)**.

- **Soils:** Soil productivity will be maintained or improved by increasing vegetation cover and reducing erosion **(JVP, West HiLine, Standards and Guidelines)**.

- **Water Resource Management:** Surface and ground water quality will be maintained to meet or exceed state and federal water quality standards **(JVP, West HiLine, Standards and Guidelines)**.

- **Vegetation Management:** The ecological status will be improved or maintained to achieve a plant community of good (late seral) to excellent (potential natural community) on 80% of the public lands within 15 years of implementation of activity plans **(JVP)**.

Public lands that are in satisfactory (good and excellent) ecological condition will be maintained. Public lands with unsatisfactory (poor and fair) ecological condition will be managed according to multiple use objectives based on ecological site potential for specific uses **(West HiLine, Standards and Guidelines)**.

About 40% of the vegetation will continue to be allocated to livestock grazing and about 60% will continue to be allocated to watershed protection and wildlife forage and cover **(JVP)**.

The quality and quantity of summer wildlife forage will be improved by improving the reproduction and availability of palatable forbs for deer and antelope. Deer and antelope winter range (especially woody species) will be maintained and/or improved. Existing sagebrush stands will be maintained at a canopy cover of 15 to 50% with an effective height over 12 inches **(JVP, Standards and Guidelines)**.
The quality and quantity of nesting, brood rearing and winter habitat for upland game birds and waterfowl nesting habitat will be

improved by providing residual upland grass and forb cover **(JVP, Standards and Guidelines)**.

Land will be managed for succulent vegetation production, including a variety of forbs, and big and silver sagebrush will be maintained on sage grouse wintering and nesting areas with a canopy coverage of 15 to 50% and an effective height of 12 inches. Woody vegetation will be maintained or improved for sharp-tailed grouse cover **(JVP, Standards and Guidelines)**.

- **Riparian and Wetland Management:** Riparian-wetland areas will be maintained or improved based on proper functioning condition and desires plant community. Riparian-wetland objectives will be initially accomplished through livestock grazing methods at current stocking levels. If grazing methods are not successful in meeting management objectives, necessary actions will be taken to meet those objectives **(JVP, Standards and Guidelines)**.

All manageable riparian areas will have management plans implemented to maintain, restore or improve riparian areas to achieve a healthy and productive ecological condition for maximum long-term benefits and values **(West HiLine, Standards and Guidelines)**.

Livestock grazing in specialized, high use recreation sites along the UMNWSR will be controlled through fencing and/or selective grazing **(West HiLine)**.

Temporary livestock exclosures, to protect riparian communities, may be necessary when other management actions do not allow seedling establishment of riparian species. Alternate water sources would be provided if primary sources are denied (sic). They would only be in place until riparian species are vigorous enough to withstand proper grazing use as determined by monitoring. Where feasible, riparian pastures will be established to allow rehabilitation of riparian areas while still allowing proper use of AUMs **(West HiLine)**.

Pastures with riparian areas will not be grazed by livestock during the hot season more than one year out of three in order to maintain or improve riparian communities to a satisfactory condition **(West HiLine)**.

- **Land Treatments:** Land treatments will be used to meet watershed, grazing management and wildlife objectives but will be applied only where grazing management alone will not accomplish the desired result **(JVP, West HiLine)**.

- **Noxious Plants:** Noxious plants will be controlled or eradicated through integrated pest management in order to maintain native rangelands **(JVP, West HiLine, Standards and Guidelines, Interim Monument Guidance)**.

- **Wildlife and Fisheries Management:** Suitable habitat for all wildlife species will be maintained or enhanced. The emphasis for habitat maintenance and development will be on present and potential habitat for sensitive, threatened and/or endangered species, nesting waterfowl, crucial wildlife winter ranges, non-game habitat and fisheries **(JVP, Standards and Guidelines)**.

Habitat for wildlife will be maintained and enhanced. The emphasis for habitat maintenance and development will be placed on present and potential habitat for sensitive, threatened and/or endangered species, nesting waterfowl, game birds, fisheries and crucial big-game winter ranges **(West HiLine)**.

- **Prairie Dog Management:** Prairie dog towns will be maintained or managed based on the values or problems encountered **(JVP)**. Prairie dog towns smaller than 10 acres will not be actively managed **(West HiLine)**.

- **Elk and Bighorn Sheep Management:** Habitat will be provided for elk in the Missouri Breaks consistent with the MT Dept of FWP Elk Management Plan. Habitat will be provided to maintain and expand (where suitable forage is available) bighorn sheep in the Missouri Breaks **(JVP)**.

- **Recreation:** The recreational quality of public land and resources will be maintained and/or enhanced to ensure enjoyable recreational experiences. Recreation emphasis will be to develop and maintain opportunities for dispersed recreational activities such as hunting, scenic and wildlife viewing and driving for pleasure.

The UMNWSR and the Missouri River Breaks National Monument will be managed to protect and preserve the remarkable scenic, recreational, geological, fish and wildlife, historic, cultural and other values as directed by Congress in the Wild and Scenic River Act (and amendment for the Upper Missouri) and Interim Management Policy for Newly Created National Monuments **(West HiLine, Interim Monument Guidance)**.

Recreational opportunities will be provided to the broadest possible cross section of users. Chances for recreational activities will be available to floaters, motorized water users (with seasonal restrictions), hunters, fishermen, sightseers, rock hounds, photographers, hikers, day use picnickers and many others. Visits to the UMNWSR should be a safe, informative experience.

- **Off-Highway Vehicle Use:** BLM will restrict OHV use on BLM land year-long or seasonally to designated roads and trails or close specific areas to protect resource values, i.e., protect vegetation and soils to maintain watersheds and water quality, reduce user conflicts, and reduce harassment of wildlife and improve water quality **(JVP, Interim Monument Guidance)**.

The Missouri Breaks area will be restricted seasonally to protect fragile soils, reduce user conflicts, and maintain and improve water quality **(JVP)**.

OHV use would be limited to designated roads and trails in the UMNWSR Corridor **(West HiLine)**.

Permits may be issued on a case-by-case basis for administrative vehicular use in areas with restrictions **(West HiLine, Interim Monument Guidance)**.

- **Visual Resource Management:** Activities will be managed to comply with VRM policies **(JVP, West HiLine)**.

- **Cultural:** Cultural resources will be properly managed through a systematic program of identification and evaluation. The level of conflict between cultural resources and other land and resource uses will be reduced in compliance with existing laws/regulations **(JVP, West HiLine)**.

Cultural resources will be enhanced and protected and traditional cultural values will be protected **(West HiLine, Interim Monument Management)**.

- **Fire Management:** Fire will managed in the manner most cost effective and responsive to resource management objectives **(JVP, Interim Monument Guidance)**.

Prescribed fire will be utilized only under specific conditions and may be administered on an individual basis in grassland, sagebrush and/or conifer types to improve wildlife habitat and vegetation production **(JVP, Interim Monument Guidance)**.

Intensive suppression of wildfire will be applied to areas with high resource values, improvements, recreation sites, administrative sites, sagebrush and juniper, fire sensitive woody riparian species, and/or cultural values and may also be used to prevent fire from spreading to adjoining private property and structures **(JVP, Interim Monument Guidance)**.

Conditional suppression will be applied to areas with low resource values or to areas not warranting intensive suppression actions and costs. Conditional suppression actions will be used in grass/shrub fuel types, Missouri Breaks fuel types and mountain timber fuel types **(JVP)**.
All wildfire within the UMNWSR Corridor will receive an initial attack unless a modified suppression plan is in effect **(West HiLine)**.

- **Forest Management:** Minor forest products may be harvested from the Missouri Breaks on a selected sustained yield basis with wildlife habitat objectives in mind **(JVP, Interim Monument Guidance)**.

Recreational use of forest products within the UMNWSR Corridor will be limited to dead-and-down material **(West HiLine, Interim Monument Guidance)**.

- **Lands:** Resource values will be protected or enhanced when considering applications or requests for Rights of Ways, leases and permits. Acquisitions will be pursued as opportunities arise through exchange or purchase with willing proponents and/or sellers **(Interim Monument Guidance)**.

- **Access to BLM Land:** Access will be pursued to BLM land where no legal public access exists or where additional access to major blocks of BLM land is needed.

- **Signing:** Appropriate signs and posters will be used to promote safety and convenience for visitors and users, define boundaries, identify management practices, provide information about geographic and historic features and protect vulnerable land areas and resources from misuse.

APPENDIX K

Allotment Information

Allot.	Allotment Name	Permittee	Numbers & Class of Animals	Dates of Use	* Type Use	Acres of Public Land	Public Land Animal Unit Months
09714	Rattlesnake Coulee	Fultz, W. (Estate)	14 cow/calf	year round	C	1174	172
19652	Miller Place	Crawford, J.	1 cow/calf	year round	C	40	5
09839	Black Rock	Trunk, O.	7 cow/calf	year round	C	520	90
09653	Able Place (LaBarge)	Crawford, J.	34 cow/calf	7/1-12/1	A	1345	170
09838	Tonne (White Rocks)	Crawford J.	53 cow/calf	5/1-8/1	A	1224	159
09729	Kipps Rapids	Goldhahn, H.	30 cow/calf	6/15-10/8	C	820	104
19655	Eagle Butte	Arnst J.	6 cow/calf	8/15-11/1	N	160	19
09681	Sherry Coulee	Clark, R.	5 cow/calf	year round	C	160	23
09799	Hole in the Wall	Qunell J.	40 cow/calf	5/1-11/15	A	625	94
09662	Mud Spring Coulee	Henderson, R.	8 cow/calf	year round	C	800	97
09687	Dammel	BM Lund	60 cow/calf	5/1-9/30	A	920	138
09700	Cut Bank Coulee	Duvall Bros.	14 14	12/1-8/31 year round	A A	515	41 85
09777	Pass Coulee	Mittal, R.	40 cow/calf 2 horse 2 horse	5/15-11/17 3/1-3/15 12/15-2/28	C A A	594	111 1 3
19837	Sheep Shed	Trunk, A. (Estate)	190 cow/calf	6/1-9/15	A	4740	468
09785	Last Chance Bench	Trunk, A. (Estate)	12 cow/calf	year round	C	1433	151
09826	Flat Creek	Buck, M. Trunk, O.	32 cow/calf 32 cow/calf	8/1-10/15 8/1-10/15	A A	333	80 80
09808	Starve Out Flats	Goldhahn M.	48 cow/calf	5/15-11/15	A	958	291
09778	Deadman Coulee	LBR Ranch	22 cow/calf	year round	C	2725	263
09798	PN Ind.	Highland Livestock	9 cow/calf	year round	C	40	9

Allot.	Allotment Name	Permittee	Numbers & Class of Animals	Dates of Use	* Type Use	Acres of Public Land	Public Land Animal Unit Months
15123	PN Ranch 15123 Past.1-3, 7-11, including Judith Portion 12, 23, 25	Highland Livestock	196	year round	C	6696	980
15124	Dog Ck 20 1524 (PN)	Highland Livestock	147 cow/calf	5/15-8/10	C	2597	395
15125	Dog Ck 21 15125 (PN)	Highland Livestock	149 cow/calf	8/11-11/9	C	1596	342
15126	Dog Ck 19 15126 (PN)	Highland Livestock	23 cow/calf	year round	C	1199	157
20066	Iron City Island	Econom G. (Estate)	64 cow/calf	6/1-9/30	A	1689	193
20046	River	Knox, R. (Estate)	150 cow/calf	5/10-9/15	A	4,192	347
20046	Mattuschek River Pasture	Knox, R. (estate)	150 cow/calf	9/13-10/31	A	2435	187
20045	Mattuschek Upland Pastures Mattuschek home Past.	Knox R. (estate)	233 cow/calf 1 cow/calf	6/1-10/31 year round	A C	6,782	691 14
Total							5958

* Type use: A = active, C = custodial, N = non-use

Appendix L

Riparian Monitoring Schedule
(Permittees Monitor Yearly)

Allotment Name	Pasture Name	Polygon #	Current Health	BLM Monitoring Schedule
White Rock	Tonne	1410-20	FAR	Biannual
Hole-in-the-Wall	Lower	1521-6	FAR	Biannual
Dammel	River	1539-42	NF	Yearly
Sheep Shed	North	1603-4	FAR	Yearly
Sheep Shed	North	Sheep Shed Coulee #2	FAR	Biannual
Pass Coulee		Flat Creek #1	FAR	Biannual
Deadman Coulee	Fahlgren Coulee	Fahlgren Coulee #1	FAR	Biannual
Deadman Coulee	Flat Creek	Flat Creek #2	FAR	Biannual
Starve Out Flats		Fahlgren Coulee #2	FAR	Biannual
Sheep Shed	Central	MR 1637	FAR	Biannual
PN	Lower Missouri	MR 1884-92	PFC	Every 5 years
PN	Windmill	Dog Creek #5	NF	Yearly
Iron City	East	MR 1983-92	FAR	Biannual
River	Road	MR 2016-20	FAR	Biannual
Mattuschek	River	MR 2082-3	FAR	Biannual
Mattuschek	Chimney	MR 2093-5	FAR	Biannual

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UPPER MISSOURI WATERSHED MAP

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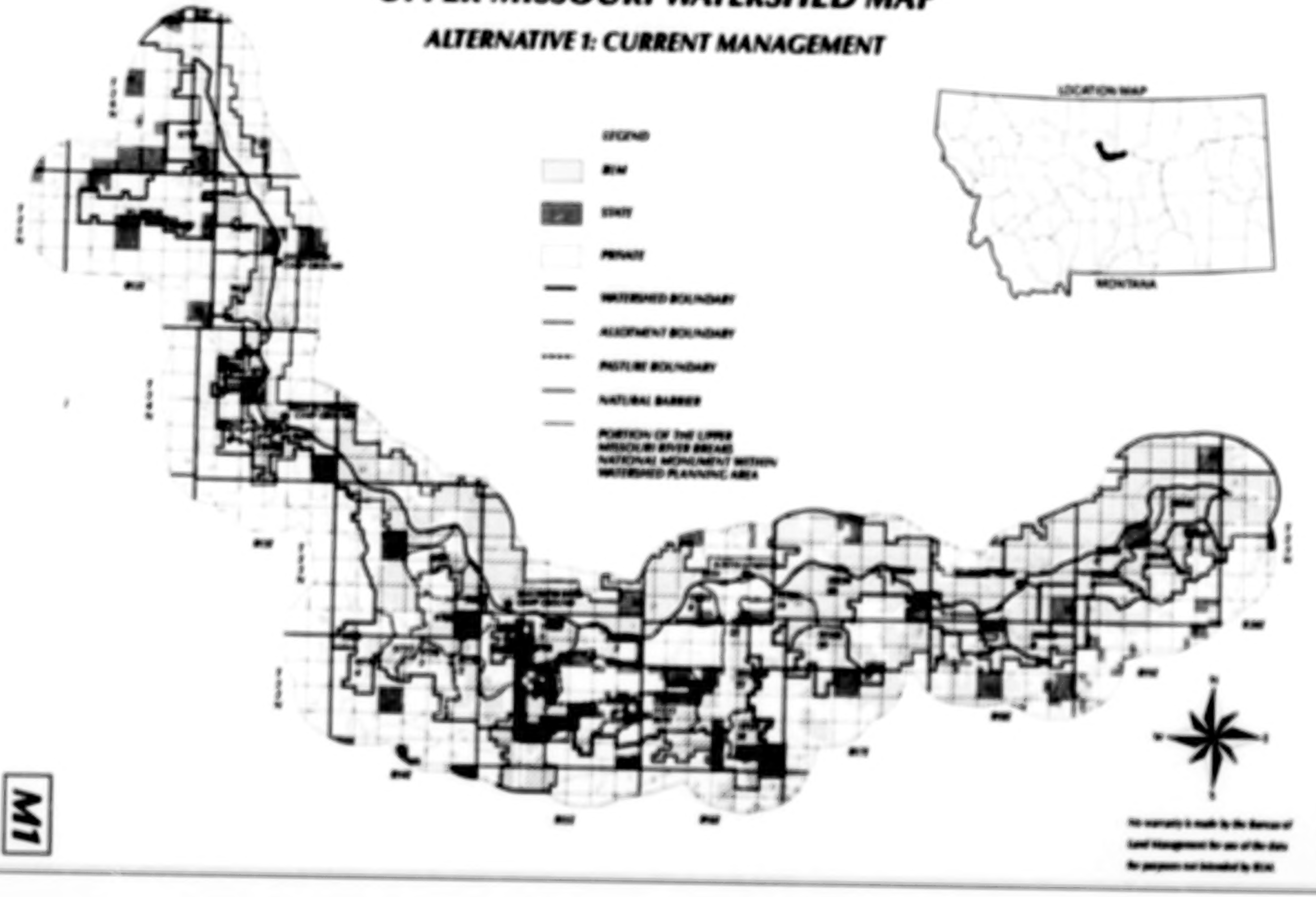

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UPPER MISSOURI WATERSHED MAP (WEST HALF)

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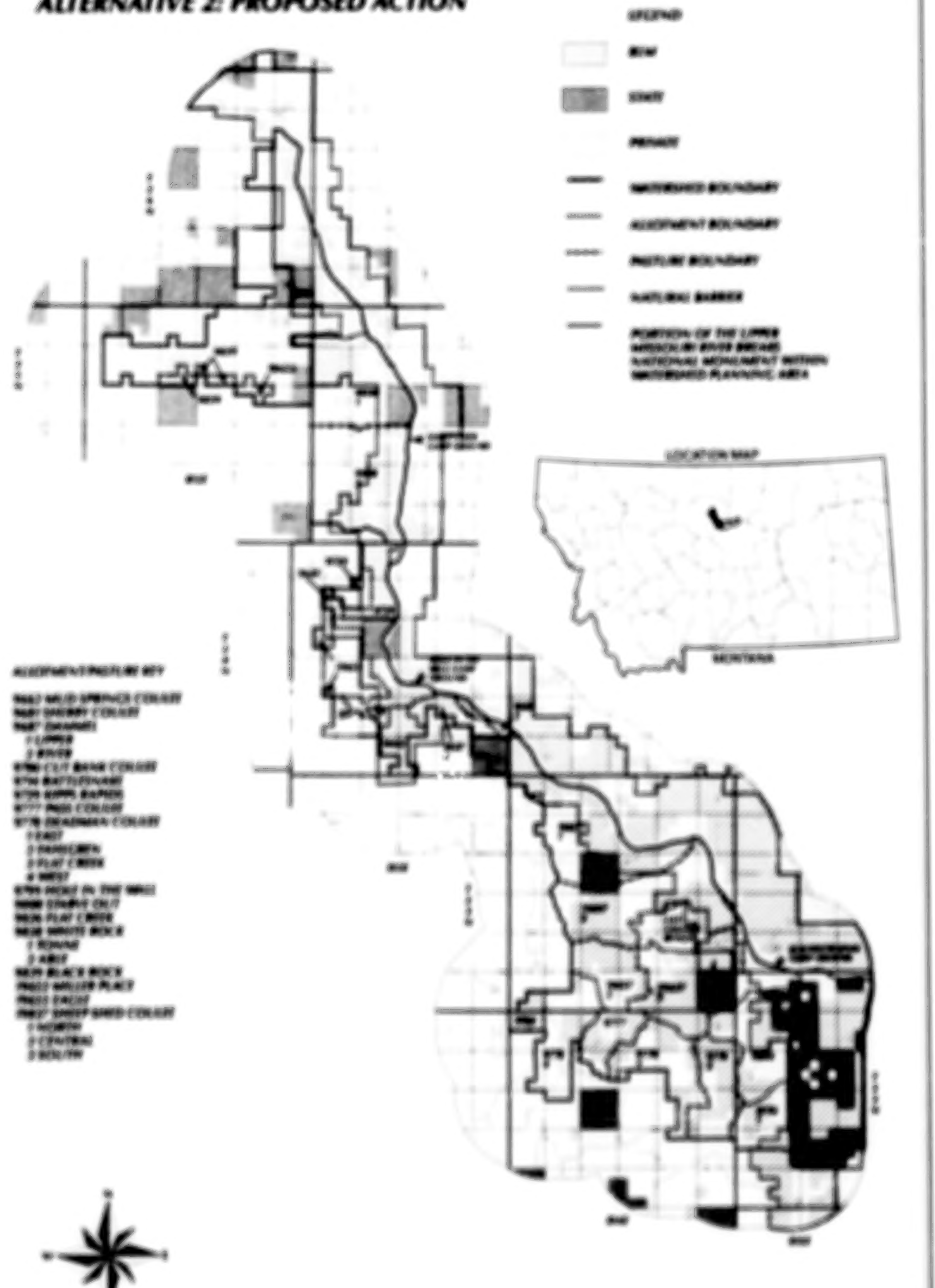

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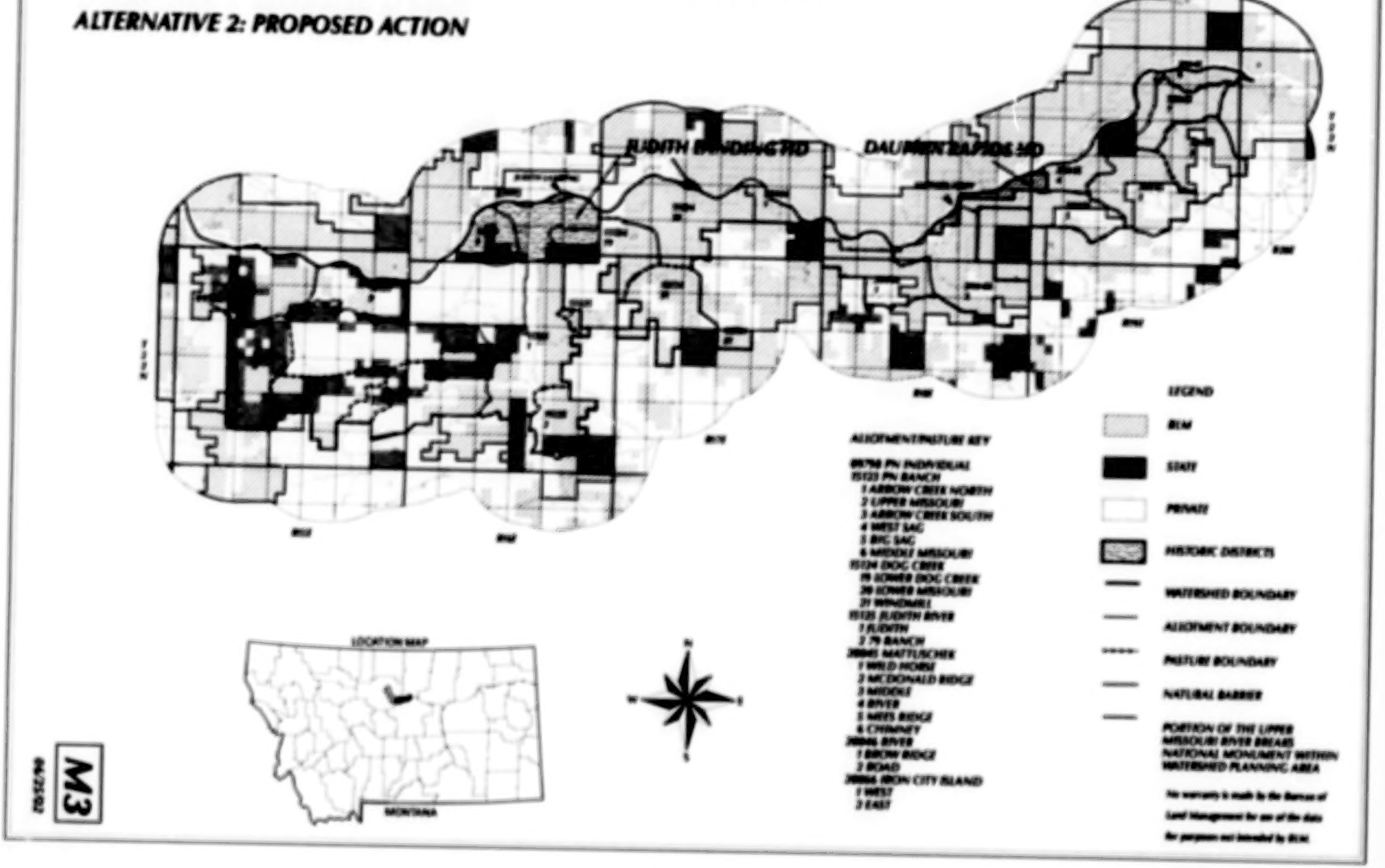

UPPER MISSOURI WATERSHED MAP (WEST HALF) PROJECTS AND STUDY SITES

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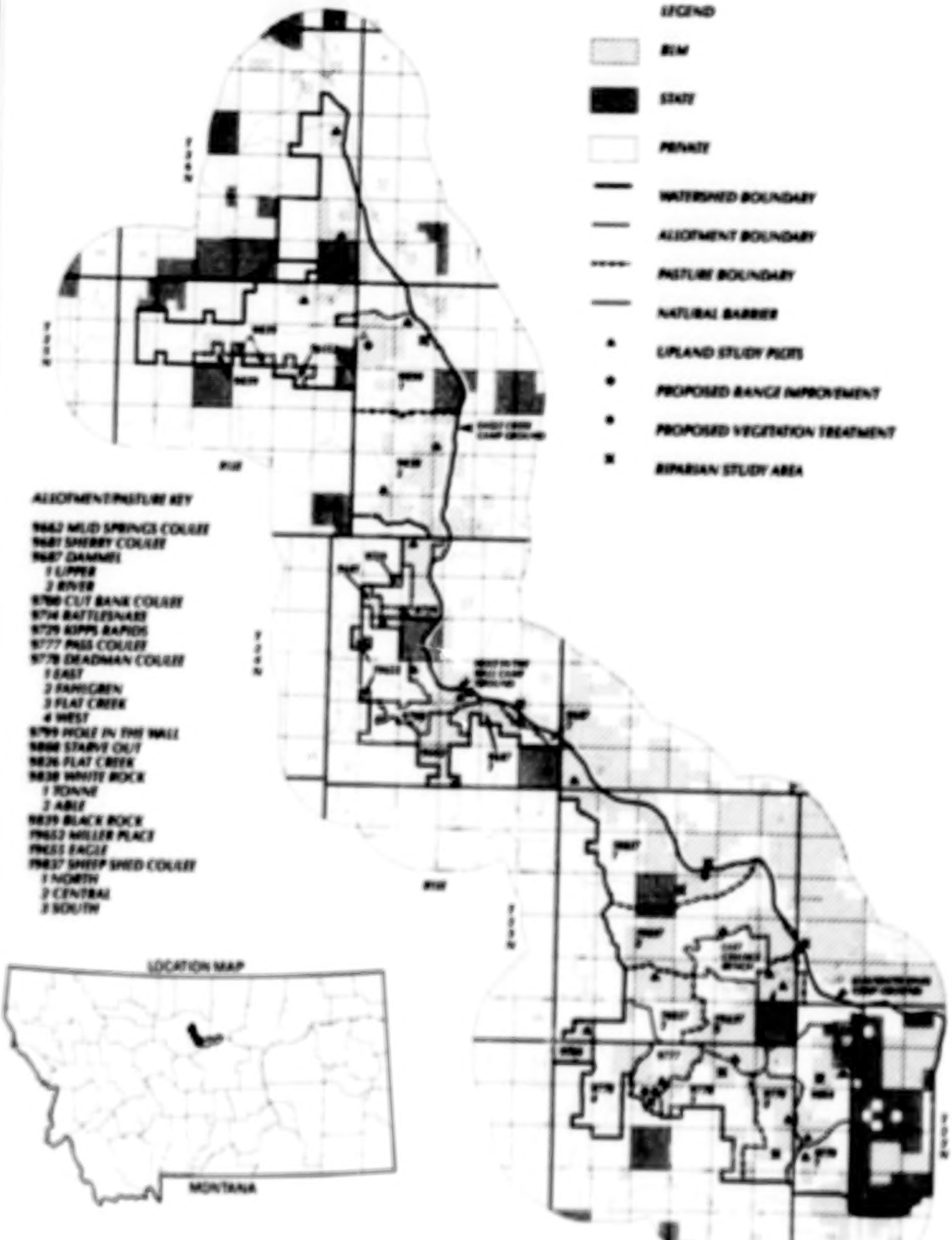

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PROJECTS AND STUDY SITES
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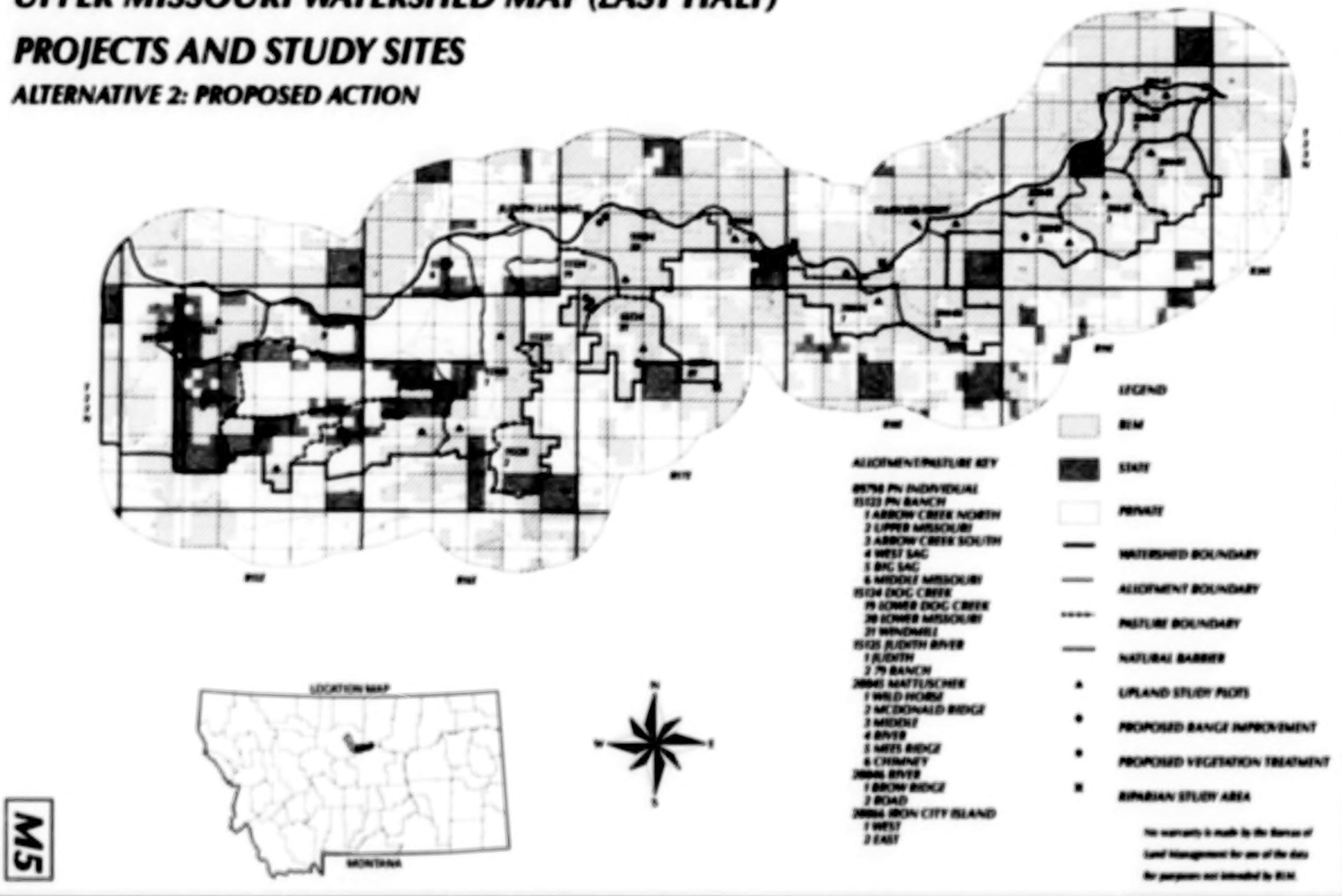

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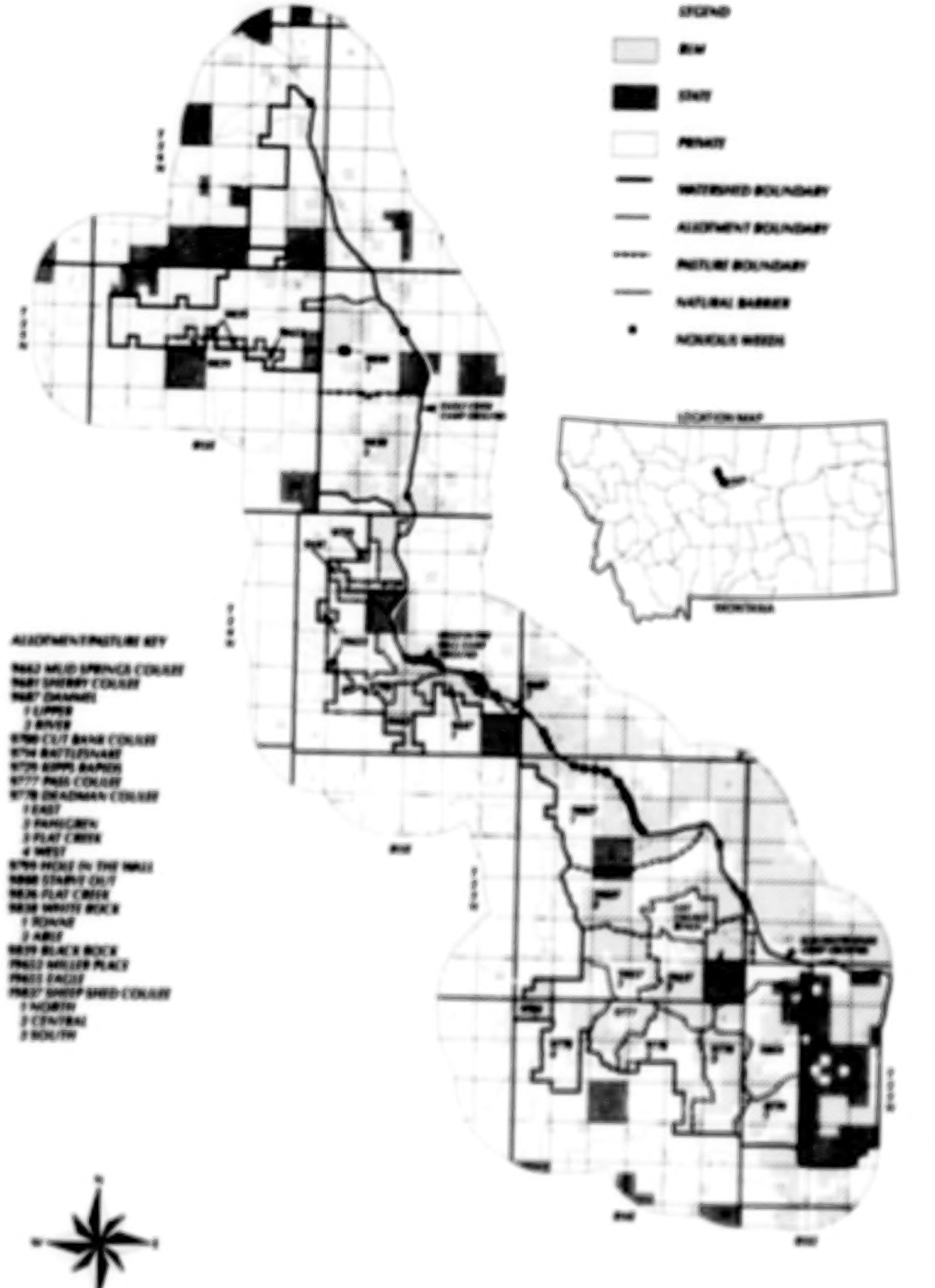
NOXIOUS WEEDS



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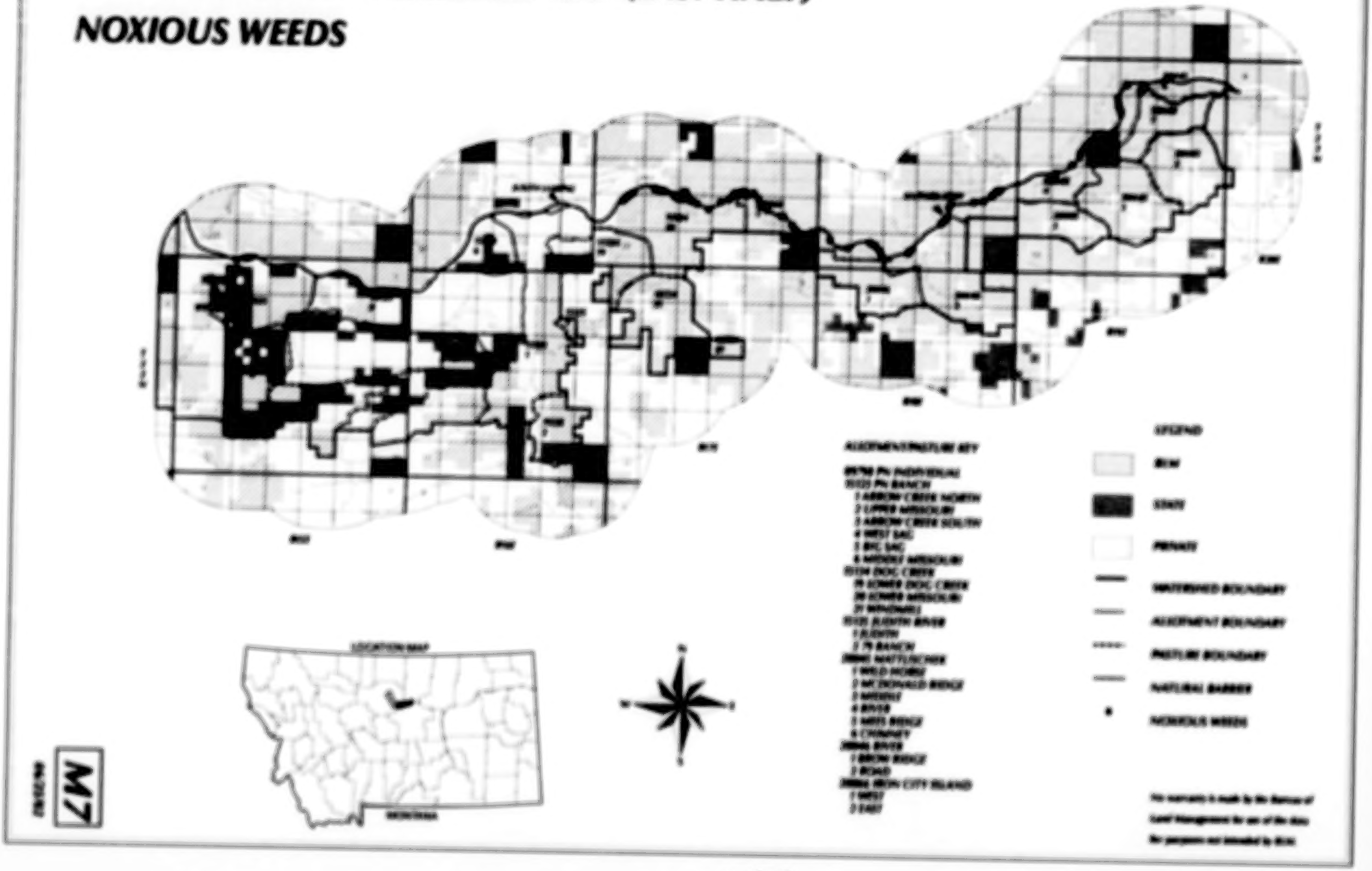
UPPER MISSOURI WATERSHED MAP (EAST HALF)
NOXIOUS WEEDS



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POTENTIAL FIRE PRESCRIPTION AREAS
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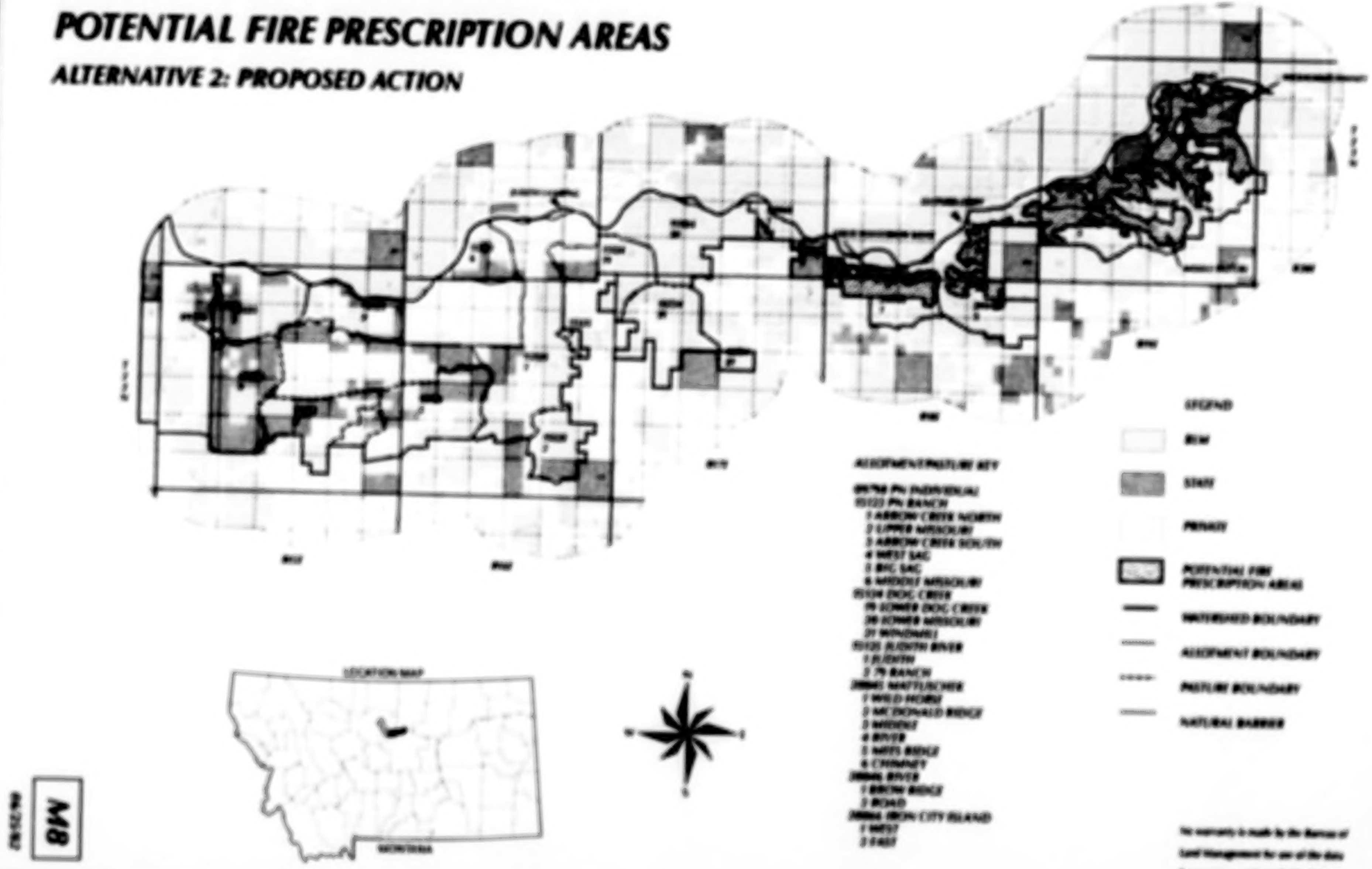

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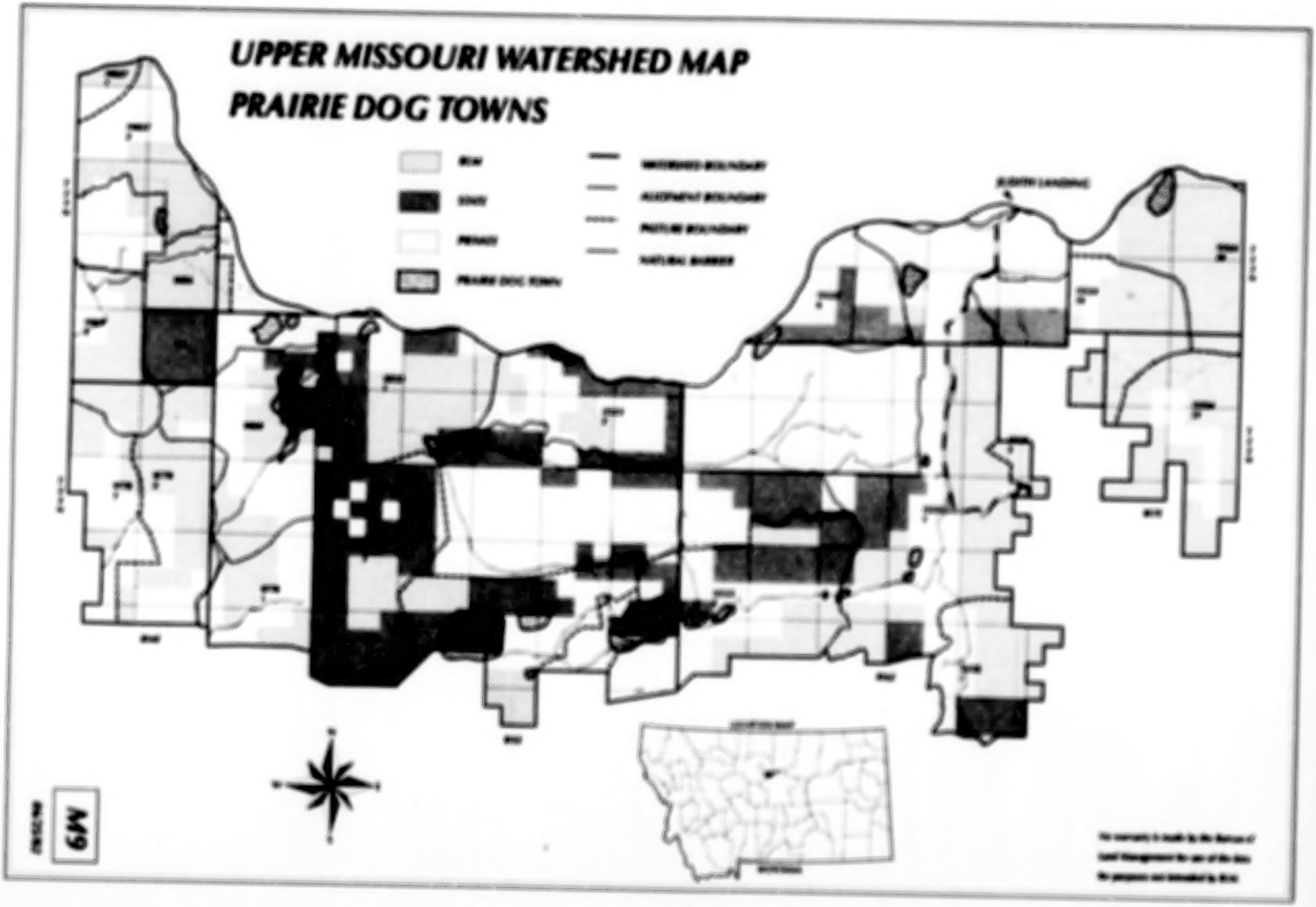
PRAIRIE DOG TOWNS



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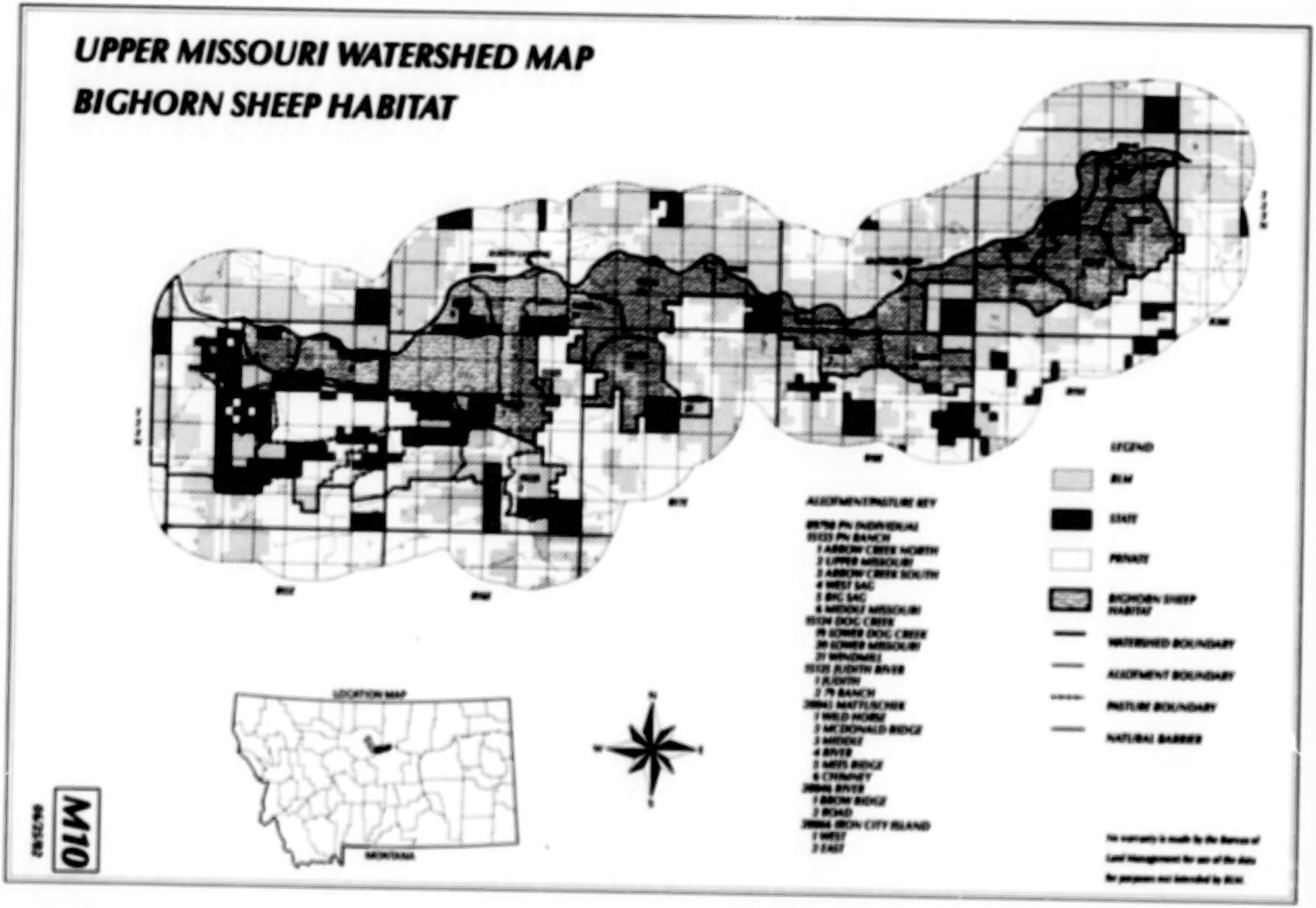
BIGHORN SHEEP HABITAT



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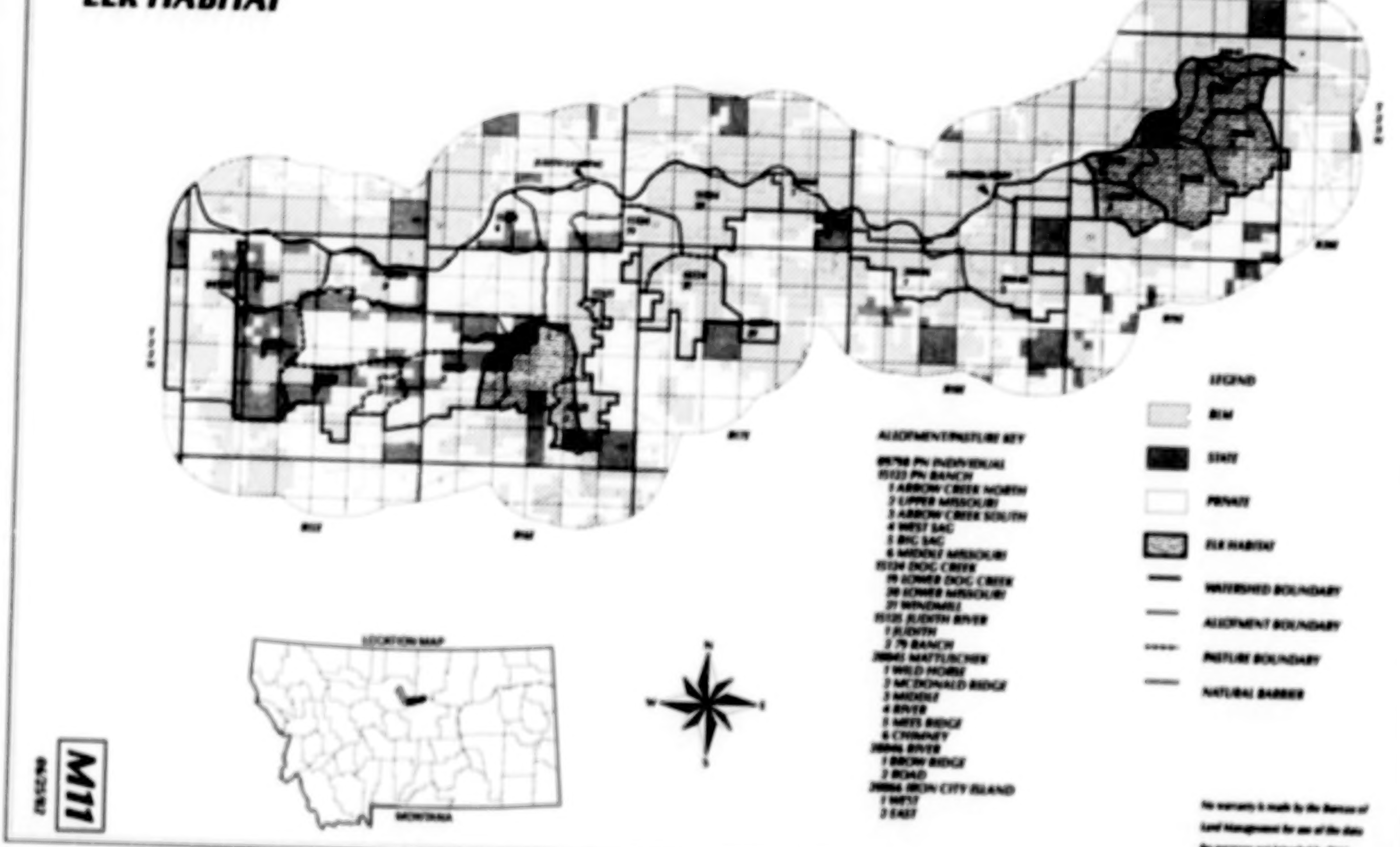
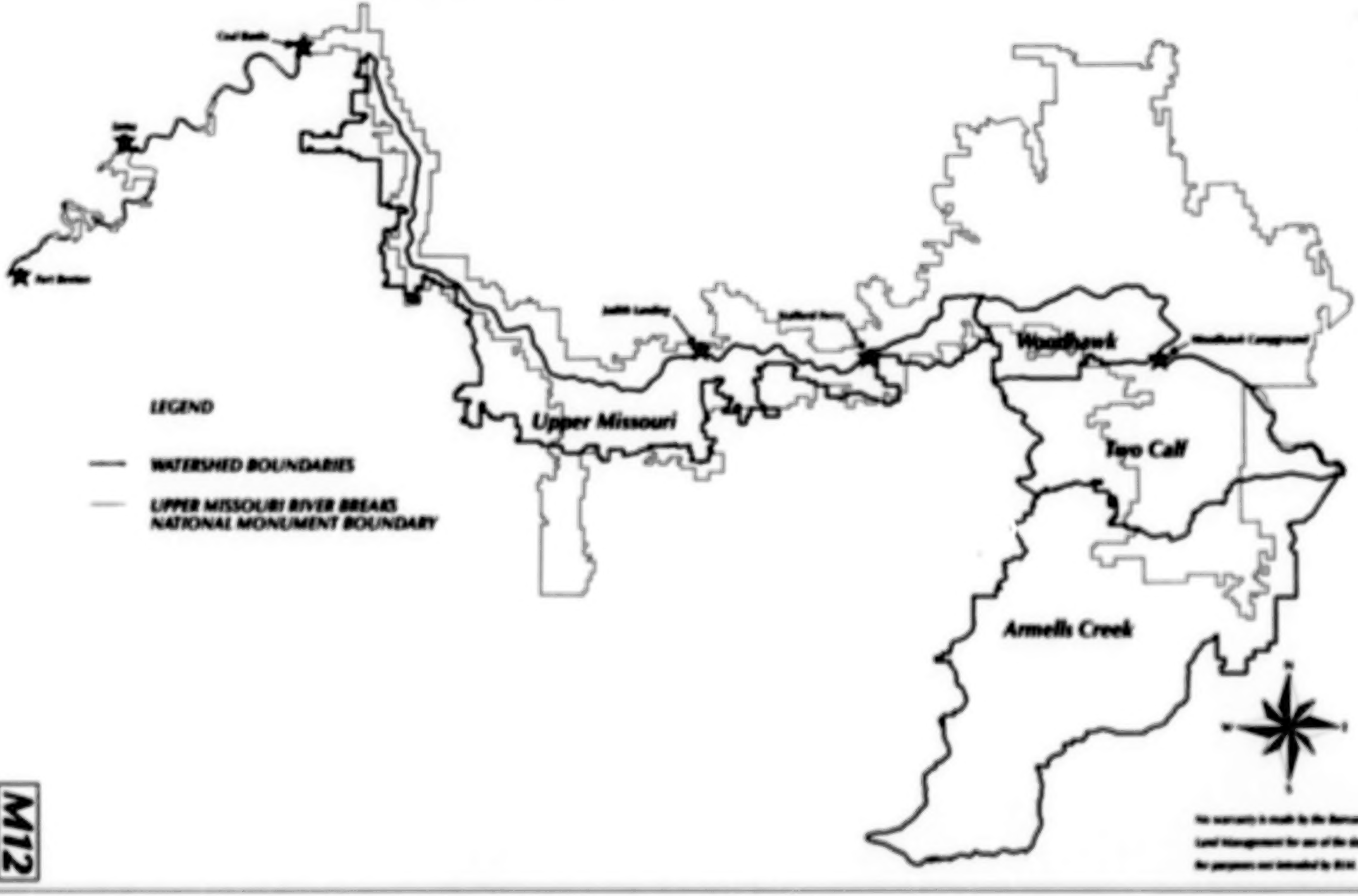
UPPER MISSOURI WATERSHED MAP
ELK HABITAT



COMPLETED WATERSHEDS WITHIN THE UPPER MISSOURI RIVER BREAKS NATIONAL MONUMENT



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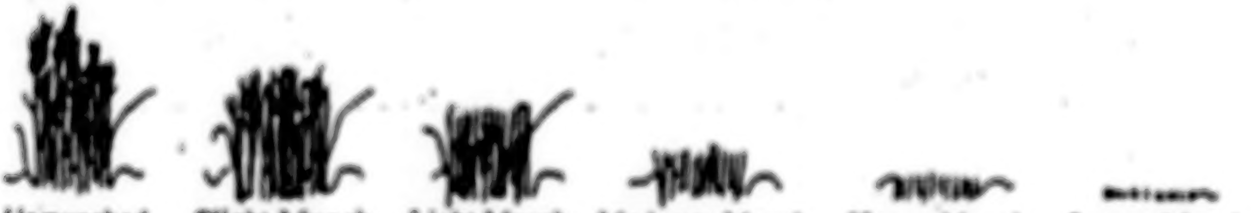
RANGE UTILIZATION GUIDE

DESCRIPTION OF CATEGORIES FOR MAPPING UTILIZATION

Use Class	Average Utilization of Individual Plants	Description
NONE	0%	No plants grazed
LIGHT	1-30%,	Less then half of the plants received 70% use, most plants ungrazed (0% use). Only the best forage plants are grazed
MODERATE	31-60%	Most plants received 70% use, a few plants at 10-30% use, and a few plants ungrazed (0% use).
HEAVY	61-80%	Almost all plants received 70% use or more, and very few, if any are ungrazed (0% use).
SEVERE	>81%	All Plants grazed. Almost all plants received 90% use.

PHOTO GUIDES FOR ESTIMATING UTILIZATION

Figure 1. Photo guide for "even" utilization.



Unmunched

Slight Munch (0-20%) midpoint 10%

Light Munch (20 -40%) midpoint 30%

Moderate Munch (40 - 60%) midpoint 50%

Heavy Munch (60 - 80%) midpoint 70%

Severe Munch (80 - 100 %) midpoint 90%

Figure 2. Photo guide for "uneven" utilization.

Slight Munch A (seedheads clipped off) 10%

Slight Munch B (20% nubbed off close) 10%

Light Munch (40% nubbed off close) 30%

Moderate Munch (70% nubbed off close) 50%

Heavy Munch (the whole plant nubbed off close) 70%

Figures taken from McKinney. 1997. Rangelands. 19:4-7.

Page ______ of ______

Stubble Height/Utilization

Study Number	Date	Examiner

Allotment Name	Pasture

Stubble Height (inches)

Site or Species

	Column A		Column B
1		26	
2		27	
3		28	
4		29	
5		30	
6		31	
7		32	
8		33	
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	
Subtotal A		Subtotal B	

Stubble Height Summary

Subtotal A	
Subtotal B	
Total (Subtotals A + B)	
Average (Total ÷ 50)	

Utilization (%)

Site or Species

	Column A		Column B
1		26	
2		27	
3		28	
4		29	
5		30	
6		31	
7		32	
8		33	
9		34	
10		35	
11		36	
12		37	
13		38	
14		39	
15		40	
16		41	
17		42	
18		43	
19		44	
20		45	
21		46	
22		47	
23		48	
24		49	
25		50	
Subtotal A		Subtotal B	

Utilization Summary

Subtotal A	
Subtotal B	
Total (Subtotals A + B)	
Average (Total ÷ 50)	

Streambank Disturbance

Limiting livestock disturbance to streambanks helps maintain or improve water quality, vegetative production, and fish and wildlife habitat. Streambank disturbance should be measured on both banks along a 100-ft stream segment. The observer walks along the bank and tallies the number of feet where the streambank would not likely remain intact during peak stream discharge. Divide the number of feet of disturbed streambank by the total number of feet in the sample (i.e., 200 ft) and then multiply this result by 100 to obtain the percentage of disturbed streambank.

The amount of streambank disturbed by livestock trampling alone can also be assessed. The observer measures streambank disturbance as described above except the observer only records the feet of streambank where livestock hooves appear to have directly caused the streambank to be unstable. The observer does not merely count hoofprints.

Streambank disturbance will always be a subjective estimate. However, estimates from individual observers are generally consistent when streambank disturbance exceeds 25% (i.e., > 50 ft of the 200-ft sample). Streambanks are more likely to slough or erode during peak stream discharge when: a) bare soil is exposed to running water; b) the roots of bank-stabilizing vegetation are exposed to air or water; or c) cracks are present in the sod on top of the streambank. Streambanks comprised largely of bedrock, boulders, or large cobbles or gravel are generally resistant to erosion and also resist streambank disturbance caused by livestock.

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EXAMINER ______________________

ALLOT. ______________________

PAST. ______________________

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